AGAINST NATURE

LORRAINE DASTON

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1 THE PROBLEM: HOW DOES "IS" BECOME "OUGHT"?

In his *Anthropology from a Pragmatic Point of View* (1798), Immanuel Kant remarked: "It is noteworthy that we can think of no other suitable form for a rational being than that of a human being. Every other form would represent, at most, a symbol of a certain quality of the human being—as the serpent, for example, is an image of evil cunning—but not the rational being himself. Therefore we populate all other planets in our imagination with nothing but human forms, although it is probable that they may be formed very differently, given the diversity of the soil that supports and nourishes them, and the different elements of which they are composed."[1] The many depictions of the serpent with a human head who corrupted Adam and Eve implicitly make Kant's point: a serpent who could speak and reason so beguilingly was as much person as reptile (fig. 1). Although Kant was firmly convinced of the existence and physical diversity of nonhuman rational beings, he assumed that this diversity made no difference to their character as *rational* beings: whether they were rational Martians or rational angels, reason was reason everywhere in the universe.[2] I would like to offer an alternative to this brand of Kantian philosophical anthropology: it matters to reason—not just to sensibility and psychology—what kind of species we are. The kind of philosophical anthropology I am proposing is an inquiry into *human* reason, rather than universal Reason *tout court*.

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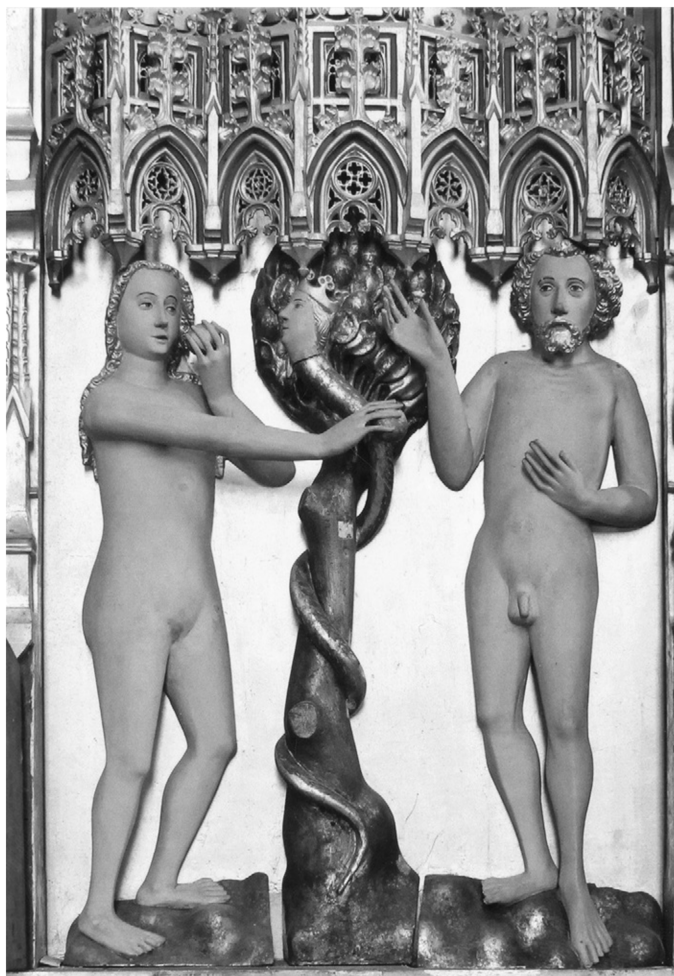

Figure 1

Anonymous Master, *Adam and Eve in Paradise* (ca. 1370), Doberan Cathedral, Bad Doberan, Germany.

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This project makes sense only when anchored in a genuine problem, one of sufficient historical and cultural generality to be a plausible candidate for a philosophical anthropology (as opposed to a cultural anthropology or a history of a particular time and place). The question I would like to address can be simply posed: Why do human beings, in many different cultures and epochs, pervasively and persistently, look to nature as a source of norms for human conduct? Why should nature be made to serve as a gigantic echo chamber for the moral orders that humans make? It seems superfluous to duplicate one order with another, and highly dubious to derive the legitimacy of the human order from its alleged original in nature. Yet in ancient India and in ancient Greece, in medieval France and Enlightenment America, in the latest controversy over homosexual marriage or genetically modified organisms, people have linked the natural and moral orders—and disorders. The stately rounds of the stars modeled the good life for Stoic sages; the rights of man were underwritten by the laws of nature in revolutionary France and in the newborn United States; recent avalanches in the Swiss Alps or hurricanes in the United States prompt headlines about "The Revenge of Nature." Nature has been invoked to emancipate, as the guarantor of human equality, and to enslave, as the foundation of racism. Nature's authority has been enlisted by reactionaries and by revolutionaries, by the devout and secular alike. In various and dispersed traditions, nature has been upheld as the pattern of all values: the Good, the True, and the Beautiful.[3]

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For centuries, philosophers have insisted that there are no values in nature. Nature simply is; it takes a human act of imposition or projection to transmute that "is" into an "ought." On this view, we can draw no legitimate inference from how things happen to be to how things should be, from the facts of the natural order to the values of the moral order. To try to draw such inferences is to commit what has come to be called the "naturalistic fallacy"[4]—a kind of covert smuggling operation in which cultural values are transferred to nature, and nature's authority is then called upon to buttress those very same values. Friedrich Engels described this strategy in his critique of Social Darwinism, which he claimed was simply a reimportation back into the social realm of the Malthusian doctrines that Darwin had originally exported into the natural realm.[5] Engels's example shows that this sort of value-trafficking often has political consequences, as when medieval rulers defended the subordination of bulk of the population to the aristocracy and clergy on the grounds that it was as natural as for the hands and feet to serve the head and heart of the "body politic," or when early twentieth-century opponents of higher education for women argued that the natural vocation of all women was to be wives and mothers. Subordination and domesticity were thereby "naturalized": in such cases, contingent (and controversial) social arrangements were shored up by the necessity and/or desirability of allegedly natural arrangements. With examples like these in mind, some critics of alleged moral echoes of natural orders, such as the nineteenth-century British philosopher John Stuart

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Mill, have condemned the naturalistic fallacy as not just logically false but morally pernicious to boot: "Either it is right that we should kill because nature kills; torture because nature tortures; ruin and devastate because nature does the like; or we ought not to consider at all what nature does, but do what it is good to do."[6]

Why, then, does the moral resonance of nature persist so stubbornly? Critical thinkers have spilled oceans of ink in attempts to pry "is" and "ought" apart. Despite their best efforts, however, the temptation to extract norms from nature seems to be enduring and irresistible. The very word "norm" epitomizes the mingling of the descriptive and prescriptive: it means both what usually happens and what should happen: "Normally, the cranes migrate before the first snow." I am under no illusion that another attempt to put "is" and "ought" asunder will succeed where the likes of Hume, Kant, Mill, and many other luminaries have failed. Rather, I want to understand *why* they have failed: why, in the teeth of such sterling counsel to the contrary, do we continue to seek values in nature?

I do not think the answer to this question lies just in an account of popular error, vestigial religious beliefs, or sloppy habits of thought. This is a case not of simple mass irrationality but rather of a very human form of rationality—and hence the subject of a philosophical anthropology. My line of inquiry will be to excavate the sources of the intuitions that propel the search for values in nature. In various times and places, these intuitions have expressed themselves in the most luxuriantly diverse forms—as diverse as the

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efflorescence of nature and culture themselves. But the core intuitions underlying all this diversity of norms grounded in natures have something in common. At their heart is the perception of order—as fact and as ideal.

Some examples of the different ways natural and moral orders have been intertwined will help make the problem vivid. Because nature is so rich in orders, the analogy between natural and human orders can take many forms. Over the millennia, the authority of nature has been enlisted in support of many causes: to justify and to condemn slavery, to praise breastfeeding and to blame masturbation, to elevate the aesthetic of the sublime over the beautiful, and to undergird ethics by appeal to instinct or evolution. It would take many volumes (yet to be written) to do justice to this long and motley history and just as many volumes to describe the diverse natural orders used to represent and often legitimate these diverse norms. But certain forms of order recur over and over again, from Greco-Roman antiquity to yesterday's newspaper. At least within the Western intellectual tradition (the only one I am even partially qualified to write about), three in particular have exerted strong and lasting influence on both learned reflections and popular intuitions: specific natures, local natures, and universal natural laws.

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Notes

CHAPTER 1

1. Immanuel Kant, *Anthropology from a Pragmatic Point of View* (1798), trans. and ed. Robert B. Louden (Cambridge: Cambridge University Press, 2006), I.30, 65.

2. Kant once wrote (in the context of how to weigh the strength of belief by probabilities) that he would be willing to bet all he had on the existence of life on other planets: "I should be willing to stake my all on the contention—were it possible by means of any experience to settle the question—that at least one of the planets we see is inhabited. Hence I say that it is not merely opinion, but a strong belief, on the correctness of which I should be prepared to run great risks, that other worlds are inhabited." Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (New York: St. Martin's Press, 1965), A825/B823, 648.

3. For examples, see William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York: Norton, 1996); Mikulás Teich, Roy Porter, and Bo Gustafsson, eds., *Nature and Society in Historical Context* (Cambridge: Cambridge University Press, 1997); Lorraine Daston and Fernando Vidal, eds., *The Moral Authority of Nature* (Chicago: University of Chicago Press, 2004); and the still fundamental Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley: University of California Press, 1967).

4. The British philosopher G. E. Moore first coined this term in the context of ethics: G. E. Moore, *Principia Ethica* (1903; Cambridge: Cambridge University Press, 1976), 37–58. Since

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then, the term's range of references has expanded to include any appeal to nature as a standard for human values: see Lorraine Daston, "The Naturalistic Fallacy Is Modern," *Isis* 105(2014): 579–587.

5. Friedrich Engels to Pjotr Lawrowitsch Lawrow, November12–17, 1875, in Karl Marx and Friedrich Engels, *Werke* (Berlin: Dietz Verlag, 1966), vol. 34, 170.
6. John Stuart Mill, "Nature," in *Three Essays of Religion* (1874) in Mill, *Essays on Ethics, Religion and Society*, ed. J. M. Robson (London: Routledge, 1996), 373–402, on 386.

CHAPTER 2

1. See, for example, Arthur O. Lovejoy, "'Nature' as Aesthetic Norm," in Lovejoy, *Essays in the History of Ideas* (Baltimore: Johns Hopkins University Press, 1948), 69–77; Raymond Williams, *Keywords: A Vocabulary of Culture and Society*, rev. ed. (New York: Oxford University Press, 1985), 219–224.
2. Harald Patzer, "Physis. Grundlegung zu einer Geschichte des Wortes," *Sitzungsberichte der wissenschaftlichen Gesellschaft an der Johann Wolfgang Goethe-Universität Frankfurt am Main* 30 (1993): 217–280. See also R. G. Collingwood, *The Idea of Nature* (Oxford: Oxford University Press, 1960), 43–44; William Arthur Heidel, "Peri Physeos: A Study of the Conception of Nature among the Pre-Socratics," *Proceedings of the American Academy of Arts and Sciences* 45 (1910): 79–133, esp. 97–99.
3. See, for example, the entries "Nature" in the *Oxford English Dictionary*, "Natur" in *Grimms Wörterbuch*, and "Nature" in *Le Robert: Dictionnaire historique de la langue française*.
4. Wendy Doniger O'Flaherty, *The Origins of Evil in Hindu Mythology* (Berkeley: University of California Press, 1976), 94–95.
5. Scott Atran and Doug Medin, *The Native Mind and the Cultural Construction of Nature* (Cambridge, MA: MIT Press, 2008), 20–21.

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6. Aristotle, *Parts of Animals*, trans. A. L. Peck, Loeb ed. (Cambridge, MA: Harvard University Press, 1998), I.i, 641b25–32, 73.
7. Aristotle, *The Physics*, trans. Philip H. Wicksteed and Francis M. Cornford, Loeb ed. (Cambridge, MA: Harvard University Press, 1980), II.i, 193b9–10, 115.
8. Aristotle, *Politics*, trans. H. Rackham, Loeb ed. (Cambridge, MA: Harvard University Press, 1990), I.iii.23, 1258b6–8, 51.
9. Aristotle, *Generation of Animals*, trans. A. L. Peck, Loeb ed. (Cambridge, MA: Harvard University Press, 1963), IV.iii, 767b9–10, 401.
10. Arnold I. Davidson, "The Horror of Monsters," in *The Boundaries of Humanity: Humans, Animals, Machines*, ed. James J. Sheehan and Morton Sosna (Berkeley: University of California Press, 1991), 16–67. Aristotle believed that interspecies crosses could result in offspring only if sizes and gestation periods were similar and gives several examples: Aristotle, *Generation of Animals*, II.vii, 746a27–746b6, 243–245.
11. Aristotle, *The Physics*, II.viii, 199b27–29, 179.
12. Immanuel Kant, *Critique of Pure Reason* (1781, 1787), trans. Norman Kemp Smith (New York: St. Martin's Press, 1965), A100–101, 132. Kant bases his argument for the necessity of the transcendental faculty of the imagination on this thought experiment of a world without specific natures.

CHAPTER 3

1. Herodotus, *The History*, trans. David Grene (Chicago: University of Chicago Press, 1987), II.35–36, 145–146.
2. *Airs Waters Places*, in *Hippocrates*, trans. W. H. S. Jones, Loeb edition, 2 vols. (1923; Cambridge, MA: Harvard University Press, 1995), vol. 1, 70–137, on 105–107.
3. Herodotus, *The History*, III.106–109, 257–258.

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4. *Airs Waters Places*, 115.
5. *Airs Waters Places*, 111.
6. Carolus Linnaeus, *Oeconomia naturae* (Uppsala: Isaac Biberg, 1749). On the reception of Linnaeus's "economy of nature," see Donald Wooster, *Nature's Economy: A History of Ecological Ideas* (1977; Cambridge: Cambridge University Press, 1985), 31–49.
7. James Lovelock, *The Revenge of Gaia: Why the Earth Is Fighting Back—and How We Can Still Save Humanity* (London: Penguin, 2006), 16.
8. Lovelock, *Revenge of Gaia*, 26–37.

CHAPTER 4

1. Seneca, *Naturales quaestiones*, trans. Thomas H. Corcoran (Cambridge, MA: Harvard University Press, 1971), 2 vols., vol. 2, 276–281, VII.25; Brad Inwood, *Reading Seneca: Stoic Philosophy in Rome* (Oxford: Oxford University Press, 2005), 232. On laws of nature more generally in ancient philosophy, see Daryn Lehoux, "Laws of Nature and Natural Laws," *Studies in History and Philosophy of Science Part A* 37 (2006): 527–549.
2. Ian Maclean, "Expressing Nature's Regularities and their Determinations in the Late Renaissance," in *Natural Laws and Laws of Nature in Early Modern Europe: Jurisprudence, Theology, Moral and Natural Philosophy*, ed. Lorraine Daston and Michael Stolleis (Farnham: Ashgate, 2008), 29–44; Jane Ruby, "The Origins of Scientific Law," *Journal of the History of Ideas* 47 (1986): 341–359.
3. In addition to the essays in Daston and Stolleis, eds., *Natural Laws and Laws of Nature in Early Modern Europe*, see John Milton, "The Origin and Development of the Concept of the 'Laws of Nature,'" *Archives Européennes de Sociologie* 22 (1981): 173–195; John Henry, "Metaphysics and the Origins of Modern Science: Descartes and the Importance

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of Laws of Nature," *Early Science and Medicine* 9 (2004): 73–114; Sophie Roux, "Les lois de la nature à l'âge classique: La question terminologique," *Revue de Synthèse* 4 (2001): 531–576; and Friedrich Steinle, "The Amalgamation of a Concept: Laws of Nature in the New Sciences," in *Laws of Nature: Essays on the Philosophical, Scientific, and Historical Dimensions*, ed. Friedel Weinert (Berlin: Walter De Gruyter, 1995), 316–368.

4. See the articles by Catherine Wilson, Ian Maclean, Gerd Graßhof, Sophie Roux, Jean Armogathe, and Friedrich Steinle, in Daston and Stolleis, eds., *Natural Laws and Laws of Nature in Early Modern Europe*.

5. Walter Cahn, *Masterpieces: Chapters on the History of an Idea* (Princeton: Princeton University Press, 1979), 90–91.

6. Robert Boyle, *A Free Inquiry into the Vulgarly Received Notion of Nature* (ca. 1666), in *The Works of the Honourable Robert Boyle* (1772), ed. Thomas Birch, 6 vols. (Hildesheim: Georg Olms, 1966), vol. 5, 158–254, on 164.

7. Boyle, *Free Inquiry*, 163.

8. Boyle, *Free Inquiry*, 188. The issue of idolatry exercised Leibniz as well, who wrote a reply to the Latin version of Boyle's *Free Inquiry*: Catherine Wilson, "*De ipsa natura*: Leibniz on Substance, Force, and Activity," *Studia Leibnitiana* 19(1987): 148–172, and more generally on the idolatry debate in early modern natural philosophy, Martin Mulsow, "Idolatry and Science: Against Nature Worship from Boyle to Rüdiger, 1680–1720," *Journal of the History of Ideas* 67(2006): 697–711.

9. On the shifting relationship between the terminology of "laws" and "rules" in seventeenth-century natural philosophy, see Friedrich Steinle, "From Principles to Regularities: Tracing 'Laws of Nature' in Early Modern France and England," in Daston and Stolleis, eds., *Natural Laws and Laws of Nature in Early Modern Europe*, 215–232.

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10. H.G. Alexander, ed., *The Leibniz–Clarke Correspondence* (New York: Manchester University Press, 1998).

CHAPTER 5

1. See, for example, the protestors pictured in "Should We Allow Research on Human-Animal Embryos?" *Guardian*, January 12, 2009.
2. See, for example, "Nature's Revenge," *New York Times*, August 30, 2005, apropos of Hurricane Katrina, or "Mother Nature's Revenge against Human Development," *Independent*, October 24, 2007, apropos of California wildfires.
3. Thomas Aquinas, *Summa contra gentiles*, trans. Vernon J. Bourke, 3 vols. (Notre Dame: University of Notre Dame Press, 1975), 3.101.2, vol. 3, pt. 2, 82.
4. Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998), 303–328.
5. Philip Fisher, *The Vehement Passions* (Princeton: Princeton University Press, 2002), 43.
6. Fisher, *Vehement Passions*, 44.
7. Immanuel Kant, *Grundlegung zur Metaphysik der Sitten* (1785), ed. Theodor Valentiner (Stuttgart: Reclam, 2000), 58.

CHAPTER 6

1. Thomas Henry Huxley, "Evolution and Ethics," *Evolution and Ethics and Other Essays* (London: Macmillan, 1894), 46–116, on 83.
2. Christine M. Korsgaard, *The Sources of Normativity*, ed. Onora O'Neill (Cambridge: Cambridge University Press, 1996).
3. G. S. Kirk and J. E. Raven, *The Presocratic Philosophers. A Critical History with a Selection of Texts* (Cambridge: Cambridge University Press, 1969), 225–227.

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4. On the role of nature in the Abrahamic religions, as well as in ancient Greece and Rome, see Rémi Brague, *La Sagesse du monde* (Paris: Fayard, 1999).
5. Aristotle, *On the Heavens*, trans. W. K. C. Guthrie, (Cambridge, MA: Harvard University Press, 1971), I.iii, 270b1–12, 24–25. See also fragment 224 from Heraclitus: "The ancients assigned to the gods the heaven and the upper region as being the only immortal place … " (translation from Kirk and Raven, *Presocratic Philosophers*, 200).
6. Ian Hacking, *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science* (Cambridge: Cambridge University Press, 1983), 132.

CHAPTER 7

1. Philippe Descola, *Par-delà de la nature* (Paris: Gallimard, 2005), 101–107.
2. Heraclitus, fragment 229, as translated in G. S. Kirk and J. E. Raven, *The Presocratic Philosophers: A Critical History with a Selection of Texts* (Cambridge: Cambridge University Press, 1969), 203. On the significance of measure in ancient Greek thought, see Laura M. Slatkin, "Measuring Authority, Authoritative Measures: Hesiod's *Works and Days*," in *The Moral Authority of Nature*, ed. Lorraine Daston and Fernando Vidal (Chicago: University of Chicago Press, 2004), 25–49.
3. John Locke, *Second Treatise of Government* (1690), ed. C. B. Macpherson (Indianapolis: Hackett, 1980), 5.25, 21.
4. Francis Bacon, "Of Nature in Men," *Essays Civil and Moral*, in *Works*, in *Lord Bacon's Works*, ed. Basil Montagu, 16 vols. (London: William Pickering, 1825–34), vol. 1, 135.
5. Keith Thomas, *Man and the Natural World: A History of the Modern Sensibility* (New York: Pantheon, 1983), 132–133.
6. Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998), 255–276.

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CHAPTER 8

1. There have been poets and philosophers of surfaces as well as depths: see Wendy Doniger, *The Woman Who Pretended to Be Who She Was: Myths of Self-Imitation* (Oxford: Oxford University Press, 2005), 213–214.
2. G. S. Kirk and J. E. Raven, *The Presocratic Philosophers: A Critical History with a Selection of Texts* (Cambridge: Cambridge University Press, 1969), 168–169.

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