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ON THE COVER
Mary Peck, Gulls, Elwha River Mouth at Strait of Juan de Fuca 1998 (Top), Red Alders, Elwha River Valley 1998 (Middle), Godkin Creek, Elwha River Valley 1997 (Bottom). Silver gelatin prints. Used by permission of the artist.

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We learn that we are loved, not through rational study of universal truths, but through particular, partial relationships of love, care, and reciprocity which we experience at significant moments in our lives. And just as we cannot love humanity in general without first experiencing the love of particular persons, and returning that love, so we cannot love nature as a whole, in abstraction from particular places or communities of species which we inhabit.

—Michael Northcott

My son was born in 1984. Beforehand, that would have been my last choice for his birth year, thanks to George Orwell’s influential novel. But the timing of his birth was not my call; although, yes, I did have some upstream influence on it. (What was I thinking?) Be that as it may, like many others I have been thinking often these days about Nineteen Eighty-Four. Everyone focuses on the surveillance prevalent in the society Orwell imagined, or foresaw. The ubiquitous feeling of being watched bespoke a totalitarian double bind in which survival required either a conformity that was deadening to the spirit, or strategies of concealment that, over time, also warped one’s life and relationships. My favorite aspect of the book, however, was not Big Brother watching, but Newspeak talking. Control in the state of Oceania extended well beyond bodies and overt actions to minds and covert thoughts—opinions, feelings, desires, hopes, and conscientious moral commitments. The Ministry of Truth (Minitruth), where the novel’s protagonist worked, was the instrument of a concerted assault on habitats of imagination leading to lexical-diversity loss and a Great Extinction of ideas.

On the surface, it would seem that the real 2017 is just the opposite of the fictional 1984. We are awash in words and images, created and generated with tremendous speed all over the planet. Can amoral power and sinister control lurk in an excess of transient thoughts as readily as in an intellectual desert? No doubt they can. In their abundance our words are cheap, precisely because they are mass produced and designed to neutralize thought. Genuine meaning is scarce. Thus, I believe Orwell’s warning remains pertinent to us: when meaningful words and concepts disappear from our shared linguistic commons, then our capacity to think, act, and even feel in ways linked to those meanings disappears as well. Our capacity to teach, learn, and cooperate is hobbled. All that’s left is either regimented obedience or arbitrary impulse. Concepts like truth, care, friendship, love, trust, and fidelity are all turned inside out and corrupted. The Minitruth censors information and rewrites scientific, historical, and archival evidence. In one scene, workers are described at desks equipped with a large receptacle where books and papers are vacuumed away into a tube leading, presumably, to a vast, unseen shredding machine. I thought of that image the other day when I learned that climate science information has been removed from public access on the website of the Environmental Protection Agency.

Orwell wrote in a post-war world where the principal challenge was to rebuild societies that protected those indi-
points of view. Their common element is the fact of symbiotic being and doing, which is necessary to human existence. Both ethical philosophy and ecology are essentially about “the tendency of interdependent individuals or groups to evolve modes of co-operation... with an ethical content.”

What Leopold calls the land ethic has two features. First, it is an incorporation of the non-human living world into the moral community that is recognized as the source of survival and flourishing among symbiotic human beings. Second, it is thereby an extension of the moral limits human beings impose in their dealings with each other to encompass as well their dealings with nature as a whole.

The land ethic has continued to be an important organizing focus of work in environmental and conservation ethics. A number of other developments in the humanities and social sciences have emerged in the past two decades that echo some of Leopold’s insights and redirect our thinking about ethics and morality in significant ways. The emergence of care ethics as a distinctive branch of moral and social philosophy can be understood against the backdrop of this broad reorientation of normative or value-oriented theorizing.

Ethical theories provide a lens through which to understand the world and our place in it. They also provide motivation and will to act upon that understanding. Without value-infused vision and will, no matter how advanced our science and technology becomes, we are unlikely to rise to the occasion of the global environmental threats. Are our ethical systems and theories up to the task? If not, why not, and what can be done about it?

One of the things that makes Aldo Leopold’s essay “The Land Ethic” so enduring and compelling is the fact that he put his finger on the failings of the moral philosophies of his day, and this acute diagnosis has remained pertinent. Most philosophers since the Enlightenment have held that ethical life is a correction for the shortcomings of natural life. Leopold departs from that dualism in a particular way by maintaining that ethical philosophy and evolutionary ecology are essentially the same thing, considered from two different
intellectual and conceptual dynamics that I want to highlight. These dynamics are exceedingly complex, and they are ongoing. This does not augur well for a brief characterization. But let me try to capture something about them in the following way. One of these dynamics involves the question of what it is to be a “person” or “subject.” In other words, where does moral considerability come from, and what are the grounds for membership in a moral community? The second dynamic involves the question of ethical agency, its forms, its enabling conditions, and its purposes. Begin with new senses of who and where moral communities and their members are. The dynamic here is a way of seeing human beings and doings in and through relationships of recognition, mutuality, respect and concern, need and vulnerability. This is a “relational turn” in which the individualism that has been the starting point of so much work in both moral and political philosophy is being reconstructed in a variety of transactional, ecological, and symbiotic directions. This emphasis puts approaches such as care theory in a good position to bridge the domain of ethical relationality among human beings and groups and the domain of the responsibilities of human conduct for its consequences on the integrity and resilience of ecosystems shared with other species.

Next, under what conditions does ethical agency take place, to what purposes, and in accordance with what kind of knowing? Here the dynamic I see taking shape might be referred to as a “positional turn.” (It might also be termed a “perspectival turn,” if we wish to underscore its epistemological implications.) In it, certain understandings of objectivity and of impartiality—that is to say, a certain understanding of reason, once held to be the foundation of the singular, correct, most reasonable, most enlightened “moral point of view”—are being challenged. Objectivity and impartiality once were not merely particular perspectives among others; they were the perspective of perspectives, transcending plurality and partiality. However, this is no longer a regulative ideal in moral philosophy and political theory. Instead, received understandings of objectivity and impartiality are widely taken to be deficient because they actually undermine the achievement of human goods and ideals that they purport to enable.

Among these defects are abstract universality, atemporality, essentialism, and a totalizing, hegemonic logic that is dismissive and perilous to diverse cultures around the world, and particularly so to vulnerable indigenous cultures and ways of life. The conceptual and practical remedies for these defects form a new pattern and new modes of conceptualization and practice. Among these are pluralism, reflexive perspectivalism, and a restructuring of economic and social institutions that would open society to new forms of inclusive, discursive engagement and empowerment. Such practices would provide a better source of normative authority than a search for Archimedean principles and transcendental reason has done. Their goal, ultimately, is to achieve greater epistemic justice and to realize democratic ideals, such as liberty and equality, through concrete praxis, constructive institution building, and the civic and moral learning that grows out of struggle against domination. In this sense, democracy is an experimental process, not an abstract telos or end point.
waiting to be arrived at. By the same token, care is best seen as a multi-dimensional part of one’s way of life, not as a service to be exchanged or a commodity to be provided.

I believe that these two dynamics are intertwining and mutually reinforcing in many respects. A certain narrative of selfhood—rational, self-interested, competent, virtuous and skilled (in a bourgeois sense), competitive, self-reliant—provides the historical and cultural current against which these two dynamics are swimming. This totalizing individualism stifles thick lives and authentic, non-exploitative individuality. Relational being motivates pluralistic, positional ways of seeing, and the greater discernment of that vision reinforces the positive functioning of the necessary ties of mutuality and interdependence in both social and natural life.

On the other hand, there are important tensions between these two reorientations in ethics. The relational orientation is strongly holistic when it comes to the reality of human being and the human condition. But both the relational turn and the positional turn arise out of a rejection of abstract philosophical essentialism, and this skepticism extends to purportedly naturalistic scientific accounts of “human nature,” as well. The positional perspective especially is sensitive to the ways in which such notions about what is in our nature—what is purportedly inherent and unchangeable in the culture and behavior of a certain time and place—have been used to legitimize structures of power and domination.

Can we avoid the seeming skepticism or even nihilism of the positional turn and still have a secure ethical orientation that demands and protects pluralism and diversity? Can we have the holism of the relational turn and yet still talk meaningfully about human beings as subjects who are intentional agents conscious of their own unique individuality, as well as their own interdependence?

The answers to these questions emerge together. A key part of the answer is the concept of care. Care depends on the ability to apprehend the reasons others have for what they do and to interpret the meaning such expressive agency conveys among agents as they interact together. Care is a special kind of social communication and cultural interpretation. Where does seeing the world through the lens of care leave one? I guess in a condition of plural singularities: multiple selves within each kaleidoscopic individual; communities that are emergent properties of the dynamic configuration of these possibilities of the self.

What is distinctive about the concept of care compared with such concepts as justice, rights, interests, and efficiency, each of which have been applied to both social ethics and to ecological ethics in various ways? Most fundamentally, care shifts the perspective and the starting point of ethical thinking. It is not premised on respect for autonomous, independent selves. It is premised on relationships born out of vulnerability, insufficiency, need, and interdependence.

Care is often seen as a psychological disposition necessary for good and right conduct, but it is not seen as something that in and of itself can provide good reasons for good and right conduct. It is an aspect of moral motivation, but not ethical justification. This view is not adequate, however,
because it drives too sharp a wedge between motivation and justification and presupposes questionable dichotomies between fact and value and emotion and reason. Thinking through the concept of care challenges these dichotomies head-on. One of the advantages of the concept of care is that it tends to reintegrate motivation and justification. This reintegration is especially important for a moral vocabulary that can have practical impact in politics and public policy.

Compared with justice, duty, and rights, care seems a soft and, well, gendered notion. Notice, for example, how over many years—my entire adult lifetime, pretty much—the caring term “tree hugger” has been used disparagingly by those opposed to environmental conservation and activism. Still, to put it mildly, the hard-nosed among us have not been doing such a great job of environmental protection during this period of time. Perhaps this is because protection unaccompanied by care doesn’t work over the long haul.

Care offers a universalism that is concrete and thick. Care theorists such as Eva Feder Kittay point out that universalism is biologically grounded on the necessity of maternal care. Every living human being has in common the fact that once they were cared for by someone who took on a mothering role and relationship to them. This commonality extends backward in time. All persons who cared as a mother for a child were able to do so only because mothering had been extended to them by a previous generation. Human society fundamentally depends on this structure of care-giving roles and caring relationships. Among persons, Kittay argues, equality is not based on properties that an individual possesses by virtue of who that individual is, but instead on properties that one possesses by virtue of properties that another person has or once had.

Consider then the move from social care to ecological care. What is morally considerable in any one person—her rights, her dignity, her claim to be treated with equal respect—inherently derives from the developmental relationships of care and nurture in that person’s life. If this fact conveys ethical value and significance on the chain of intergenerational human care that has been provided for socially, will it not also convey ethical value and significance on all the supporting conditions that natural ecosystems and other species provided to those human agents of mothering, parenting, and care? My mother could not have taken care of me if the ecosystem in which she lived had not fed, provisioned, and taken care of her. Put more passively, if you prefer, she could not have lived at all, much less cared for her child, but for the plenitude of the natural environment around her.

What forms of moral agency should we be looking for in the ongoing practices of ecological care? And is care a matter of private life and morality only, or does it also have a place in public life and ethics? Care is often understood as a private virtue—tending to the needs and well-being of children or elderly, ailing parents, for example. Since historically, in most cultures, much of the private and personal care work has been performed by women and girls, this tendency to equate care with the private realm of the family and the household has gone more or less unquestioned. Many feminist philosophers are suspicious of care theory because...
they feel it pulls women back into the private, domestic realm. (Logically, of course, it could also have the effect of pushing men forward into the domestic realm.)

In one sense, this historical link between care and the domestic sphere of the household, the oikos, could be an advantage for an ecological conception of care, especially to the extent that we are talking about care for ecosystems and webs of life as our natural home. Peter G. Brown, Geoffrey Garver, and Peter Timmerman, for example, have developed notions of ethical householding, thrift, and frugality that flesh out an ethic of ecological care in these ways. Nonetheless, to the extent that we want to develop the civic or public dimension of ecological care—the creation of a cultural ethos and an institutional framework that promotes and supports practices of care not only in the household and family but also in the public sphere and the civil society—then we must link practices of care to forms of democratic political agency that meet unmet need, solve policy problems, and make circumstances more just, equitable, and conducive to health and well-being. Within the broader political economy and social welfare policy of a nation, care practices in private life and in public policy can reinforce one another.

In the literature of care ethics a useful vocabulary for the purpose of extending the concept of care into the public sphere of democratic citizenship and public policy and into the natural environmental domain is offered by the work of Joan Tronto. In collaboration with Berenice Fisher, Tronto defines care as follows:

On the most general level, we suggest that caring be viewed as a species activity and includes everything that we do to maintain, continue, and repair our “world” so that we can live in it as well as possible. That World includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web.

In later work, Tronto built upon this definition by examining different aspects of what should be called “the practices of care.” Before discussing this further, let me clarify what I mean by “practices,” a term of art in ethical theory reminiscent of the perspective of early twentieth century pragmatist philosophers such as John Dewey and more recently developed in important ways by Alasdair MacIntyre.

Practices are not the constructs of a theory but the manifestation of ongoing cultural traditions and experimental or innovative modes of cooperation. They are informed both by tacit knowing and by explicit values and purposes. A practice is a form of activity that is valued in a society and governed by ethical norms. By engaging in these well-defined activities, individuals pursue the attainment of excellence and seek to actualize potential capabilities. In this way, cultures and societies provide pathways for the development of flourishing lives well lived.

When the activity of care is pursued as a cultural practice (for instance, in the professions of medicine, nursing, education, or forestry; in the institution of marriage and parenting; or in the pursuits of gardening, animal protection, or ecological restoration), it is interwoven in a well-defined fabric of cooperation and communication. Such practices already permeate everyday life,
so it is not a question of building pathways for ecological care from the ground up, so to speak. Rather, it is a more situated, practical question of mending or healing broken practices or sending out extensions of existing practices into new domains, like shoots or tendrils growing and intertwining in rhizomic fashion.

Care can sometimes be imperious and domineering. When it realizes its full moral possibilities, though, care is an enmeshed practice of nurture, protection, provision, and support for the other. It does not so much dominate as give the person receiving it a new insight about his or her own life. Since the need for care often follows injury, illness, and loss of various kinds, care offers hope through a new way of seeing the positive possibilities present in a given situation. Care among humans is a transaction among individuals who are the authors of their own acts and lives, despite their need, impairment, or limitations. But they are symbiotic, not solipsistic, authors.

There is a strong connection between the stance and activities associated with the relationality and positionality of care and that of solidarity. With solidarity the fundamental position is standing up beside. In the course of solidarity’s practice, this fundamental position then moves and reshapes developmentally into three modalities—standing up for, standing up with, and standing up as. Tronto offers a similar view of the positional-ity of care. She distinguishes among caring about, taking care of, care-giving, and care-receiving.

Caring about denotes the initial recognition of another’s need for care. As with solidarity, the “other” in question need not be another individual human being. It can be a human group, individuals or populations of another species, or an ecosystem within which the species activity of many symbiotically related creatures is made possible, and they can live well in accordance with the capabilities of their kind.

Taking care of involves assuming responsibility for the determined need of the other and undertaking steps to meet that need. If caring about is attention, taking care of is about attentiveness. Paying attention to another is rare and difficult. Philosophers such as Simone Weil and Emmanuel Levinas think it is the most morally demanding thing of all.

Care-giving involves assuming a more direct, physical, and intimate role in the practices of care. Need can be recognized and attended to in many distanced and indirect ways, but giving care is hands-on, physical work. Monetary donation or political organizing come in at earlier phases, but, Tronto insists, they are not sufficient in the care-giving phase.

Finally, the overall practice of care is a two-way street. The phase of care receiving recognizes that the recipient will often be a responsive agent in the care relationship. To overlook this fact or potentiality is a failure of ethical recognition and raises many difficult issues in the dynamics of care in families, health care institutions, schools, and other concrete venues. Those with impairments are often objectified and dehumanized. However, recognizing this responsiveness and agency by the recipient of care in the practices of care is not limited to human social interactions. Non-human beings impaired by human practices such as land development, which causes loss of habitat
and genetic diversity, are usually seen as objects, not subjects, even before their impairment calls forth the need for human care, let alone afterward.

Thus, care receiving raises ethical issues and applies to care given to non-human species and ecosystems, as well. Here, the difference between wild and domesticated or artificially bred and genetically engineered animals is certainly significant. Care is clearly in place with the latter. But I think this aspect of an ethic of ecological care holds for wild nature, too. Not only those who work with pets, animal training, and agriculture, but also those experienced in conservation biology and restoration work often have the discernment and the ability to listen to and interpret what the natural recipient of caring interventions is “saying” in response. Moreover, very important to this idea on both a personal and a policy level is the difference between interacting with living creatures or systems as objects of study or as resources to be utilized versus interacting with them as subjects of a relationship of mutuality and of care.\(^5\)

Care begins with the particulars of society, culture, and psychology—its starting point is the latent possibilities of a given place at a given time and with ongoing forms of meaningful agency pressing against structures of power. It builds on senses of historical memory and tradition, and it feeds on the gratitude felt when one recognizes the service and contributions that others have made to one’s way of life. Care begins with the recognition of symbiotic interdependence and then intervenes in—interrupts—an ongoing form of life in order to be present to the need, vulnerability, and suffering it contains, finally winning through to a better kind of species activity and life well-lived.

Care tends to move our ethical attention away from the generic, abstract, and universal toward practical and concrete social, historical, or personal situations. It inherently leads us to view our own lives and agency as bound together with the rights, well-being, health, and dignity of others here and now. That does not mean that ecological care is merely a synchronic perspective—a cross-section of frozen time—that forgets the past or discounts the future. The notion of care would be of little value to us today in the face of earth system challenges if it did.

Nonetheless, a moral discourse that takes ecological care seriously does make a fateful wager. It puts its chips on the bet that the capacity for critical reasoning and moral imagination can grow. It can arise developmentally out of an engagement with the vocation of “repairing,” as Tronto puts it, a needful, vulnerable, responsive world.

This issue of *Minding Nature* features essays by the lead scholars of the Question for a Resilient Future on What Can Evolution Tell Us about Morality? Jeffrey Schloss reviews debates in evolutionary theory concerning the development of human social cooperation, group identification, and mutual aid. He discusses many current approaches, including an integrative perspective in that field called cultural group selection theory. Apparently, we are not just a naturally selfish and competitive species, but culturally we still have a ways to go. In his essay Christopher Boehm takes up the prehistoric legacy of capital punishment and reflects on its possible evolutionary influence. In his wide-ranging discussion he touches on his own
anthropological and ethological fieldwork and on conceptual issues within evolutionary theory, such as teleology and purpose.

Working in a very different field, human rights theory and the global rights movement, Tom Kerns explores current efforts to deal with threats to group well-being and coherence that take the form of environmentally destructive corporate and technological activities. He reviews the framework of human rights and then considers issues of its enforcement and its extension into ecological protection. Tribunals have developed into effective enforcement and regulatory mechanisms, and he makes the case for strengthening them.

Essays by photographer Mary Peck and writer and poet Matt Miles shift the tone from ethics and law toward more direct and personal encounters with the natural world. Peck discusses the Elwha River on the Olympic Peninsula in Washington state and the lives of the indigenous people there—salmon fishermen who have been struggling against a disruptive dam on the river. She then moves around the world to discuss ecological values and protections in the small Himalayan kingdom of Bhutan. Miles, traveling both in England and in parks and wilderness areas of the United States, provides an eloquent essay on the vision that darkness makes possible and that light pollution has hampered in modern times. Bringing Kerns and Miles together, one might argue for a human right to a starry night sky.

Our Reviews and Reflections are similarly wide ranging, with two essays, two book review essays, and a poem. The essays both grow out of the fields of religious studies and theology. Julia Johnson discusses biblical accounts of right relationships between humans and animals, focusing on the powerful symbol of the calf, golden and otherwise. This frames her uncompromising account of the contemporary veal industry and its animal care and use practices—much use, virtually no true care. From the specific to the broad, Mark Graham provides an appreciatively critical perspective on Pope Francis’s 2015 encyclical *Laudato Si*. Graham calls upon the Pope to follow that up with a more focused, hard hitting, and prophetic teaching on climate change specifically and the great need for a moral conversion.

Reviewing Mike Shanahan’s book *Gods, Wasps and Stranglers: The Secret History and Redemptive Future of Fig Trees*, Joan Gibb Engel explores how the fig can build a bridge between science-based and faith-based understandings. What a perfect theme for this issue! Stephen Rutt offers a reflective review of Michael Engelhard, *Ice Bear: The Cultural History of an Arctic Icon*. Readers of *Minding Nature* will be familiar with Engelhard’s work from his essay in the May 2016 issue on Knut, the famous captive bear in the Berlin Zoo, and then later a taxidermic exhibit at the Berlin Museum of Natural History.

Rounding out the issue we are very pleased to have a poem by Catherine Young and the Last Word by Richard Bluestein on the restoration of Barreto Point Park in New York City.

Bruce Jennings is Senior Fellow at the Center for Humans and Nature and Editor of *Minding Nature*. He is author of *Ecological Governance: Toward a New Social Contract with the Earth* (West Virginia University Press, 2016).
NOTES


4. In a previous essay, I discussed the ways in which Hannah Arendt anticipated this line of positional criticism in her discussion of the concept of universal rights grounded on humanity as such, rather than on humanity as concretely emplaced and lived through individual human beings engaged in worlds of care and love. See “Who(se) Are We?” Minding Nature 9, no. 3 (2016): 4-10, at http://www.humansandnature.org/Who-se-are-we.


6. Dismissed in similar ways are those in the environmental humanities who have been accused of being “romantic” or “sentimental,” as if it were intellectually disqualifying to be influenced by a thinker like Rousseau or Wordsworth. Such critics have perhaps been reading too much Theodore Roosevelt.


10. Tronto, Moral Boundaries, 103.


12. MacIntyre, After Virtue, 187-203.


Our Shared Yearnings for a Greater Good

By JEFFREY SCHLOSS

If I am not for myself, who will be for me? But if I am only for myself, who am I?
—Hillel

Two principles in human nature reign;
Self-love, to urge, and reason, to restrain;
Self-love, the spring of motion, acts the soul;
Reason’s comparing balance rules the whole.
—Alexander Pope, Essay on Man

In recent days, a number of friends have told me that they felt physically ill in light of national events. Not just out of anger, or self-concern, or even empathic regard for others. But from a general sense of “moral horror.” One close friend shared with me, “We’re obsessed with being great, but not good. Somehow I feel like a cell in a diseased body. But I guess one upside is that it reminds me I really am part of a social body. I’m part of a ‘we,’ even if the we is morally hypothermic.”

I don’t share the above to make a political statement. We may disagree about what constitutes the good, and even when we agree, there will be different understandings of how to balance competing goods and what the best strategies are for achieving them. But the anecdote involves a crucial existential and fascinating scientific question. To what extent, if at all, are we humans endowed to genuinely care about a “good” that is larger than ourselves—to be a “we” and not just a “me”? Does even the phrase itself reflect a naïve, romantic delusion? And does it make any sense—as my friend somehow felt—to view morality as an evolved adaptation for social function, much like the hypothalamus is for bodily homeostasis?

Of course both cultures and individuals vary in the extent to which they value and experience “we-ness.” Indeed, each of us experiences our own changes and inner ambivalences in seeking and yielding to what we take to be a greater good. Scientific understandings of living systems in general and human sociality in particular also reflect a profound ambivalence—and often very polarized disagreement—about the consonance between evolutionary processes and what we take to be goodness or beneficence. I want to explore two contested issues that reflect both ideological disagreement and intrinsic ambiguity, which are nevertheless moving toward hopeful clarity.

THE BIOTIC ARC OF “WE”

For millennia before Darwin, religious and philosophical traditions have held wildly differing views about goodness and the natural world. A decade before publication of The Origin, Tennyson epitomized rejection of Romanticism’s sentimentalized view of nature’s goodness in his influential In Memoriam:
Who trusted God was love indeed
And love Creation’s final law
Tho’ Nature, red in tooth and claw
With ravine, shriek’d against his creed

By the end of his sixteen-year pilgrimage writing the poem, Tennyson had worked out a more nuanced and hopeful view that recognized both the perils and promises of nature. But many of my colleagues in biology have not done so, emphasizing “selfishness” not just as an aspect of nature’s dynamics, but as the ultimately essential and definitive meta-narrative of life.

Eminent evolutionary biologist George Williams regards “natural selection as a process for maximizing selfishness.” David Barash claims “evolutionary biology is quite clear that ‘What’s in it for me?’ is an ancient refrain for all life.” Richard Dawkins simply asserts that “we are born selfish.” And in an understandably famous passage, Michael Ghiselin claims, “Scratch an ‘altruist,’ and watch a ‘hypocrite’ bleed. No hint of genuine charity ameliorates our vision of society, once sentimentality has been laid aside. What passes for cooperation turns out to be a mixture of opportunism and exploitation.”

These aren’t straw-man representations of scientific outliers, but are prominently cited depictions of how the world fundamentally works. Although it’s important not to sentimentalize living systems, it’s equally important not to vilify them. The “all is selfish” attributions in the name of evolution are just wrong, for three reasons that combine to form a very different narrative of nature.

First, the very term “selfish” has moral and anthropomorphic implications that confound motive with consequences. We all recognize that a person may behave with intentions focused genuinely and unselfishly on the welfare of another—say caring for your child or jumping into the river to save a friend—that nevertheless have consequences that directly or indirectly contribute to biological fitness. Such care for others is not “selfish” in any meaningful sense. But even in creatures without intentions, there is an important distinction between what we might consider selfishness and “self- ness.” In contrast to rocks, living systems have “ends”: they develop, actively maintain internal order, and reproduce. Insofar as they are target-oriented in sustaining internal conditions and structure, we can view them as “autonomous agents able to act on their own behalf.” In some sense, they are “selves” with needs and responsive, goal-oriented behaviors as they work to preserve their selfhood. But the wondrous capacities of life for self-maintenance are not the same as being “selfish.” The latter entails behaviors that target self-flourishing in opposition or consequential indifference to the flourishing of others.

Self-maintenance needn’t entail other-opposition. Indeed, many cases of mutualism and symbiosis exhibit the very opposite. In lichens, an organism I have studied with great delight in the boreal forest, there is actually a union of two species to form a new one. A fungus provides a water-holding substrate and an algae provides photosynthetic nourishment. Not only does this inextricably link self-flourishing to others, but it arguably erodes the demarcation of “other,” creating a more expansive kind of functional “self” or organic individual. A “greater good.”

However, maybe such cases of symbiotic flourishing are just outliers or unusual outcomes that have somehow overcome a more fundamental and intrinsic selfishness and competitiveness to nature? This is the second problem with the claim that all’s selfish: it badly conflates the over-arching process of natural selection with the more limited and admittedly “selfish” phenomenon of competition.

Although he did not devise either phrase, Darwin did use both “struggle for existence” and “survival of the fittest.” But tooth-in-claw connotations notwithstanding, neither is necessarily competitive. Yes, creatures can struggle against each other for mates or food; but they can also simply wrestle against the physical environment, sometimes struggling not against but with each other, as in huddling together against the cold. Darwin himself claimed “I use the term Struggle for Existence in a large and metaphorical sense, including dependence of one being on another.” And a century and a half later, Martin Nowak, who directs Harvard’s Program for Evolutionary Dynamics, observes that it is not just mechanistically possible but actually necessary for evolutionary innovation (for reasons we’ll discuss) that the struggle for existence be attended by what he playfully calls the “snuggle for existence.”

Neither does survival of the fittest intrinsically entail competition; it is just the successful reproduction of those best able to meet challenges in a given environment. More precisely, natural selection is simply “differential reproduction”: some heritable variations increase more rapidly than others. On the other hand, competition is ecologically understood as mutually subversive impact on one another’s reproduction. So, whereas competition requires your profit at my loss,
natural selection just means you make more profit than I do. Importantly, your presence in the marketplace doesn’t necessarily hurt me. It could even help, or as is often the case, just be unrelated to my success. A bacterium with a mutation for antibiotic resistance or metabolizing a new nutrient can reproduce more rapidly than a strain that lacks these abilities, without exerting any negative impact on the other.

Finally, and most provocatively, the above two observations help give rise to a third. It turns out that the arc of evolution can be viewed not strictly as “maximizing selfishness” but even as generating we-ness. Or, perhaps, as facilitating the emergence of new, inclusive levels of self-ness. At face value that may sound flaky or obscure. But biologists now recognize a tangible series of “major evolutionary transitions” involving the sequential increase of cooperative interdependence. Over evolutionary history:

Self-replicating molecules come together in protocells.

“Simple” bacterial (prokaryotic) cells come together to form complex eukaryotic cells with compartmentalized division of labor.

Single cells come together to form multicellular plants, fungi, and animals, with specialized cells and organs that diversify functions.

Solitary individuals come together to form colonies or eusocial animal groups with specified roles or castes.

Primate sociality gives rise to large, symbol-mediated, intensely cooperative human societies with linguistically negotiated division of labor between genetically unrelated individuals.

These transitions share thematic continuities that have fascinating relevance to the idea of “greater good.” All involve the integration of previously separate individual entities into a larger-scale, functional cooperative. This requires not only cooperation, but a special kind of cooperation based on specialization, division of labor, and indispensable reliance on others. The transitions also involve the emergence of new kinds of information storage and transmission, with entities that could previously replicate on their own now requiring a larger unit. For all these reasons, previously autonomous “selves” now are obligately interdependent on each other at a higher level of organization. In fact, these stages are often referred to as “evolutionary transitions in individuality,” or ETIs.

Maybe it’s not a romantic delusion to think that a me can also involve a we.

There is an irony here that I find sublime. While autonomy is relinquished at the “lower” level, it is actually enhanced at the higher. The capacity to sense the environment, to control internal conditions, to “act on one’s own behalf” through a range of emerging capacities—the very qualities we associate with life itself—are elaborated across the series of ETIs. Indeed, fifty years ago in a prominent but at the time iconoclastically anti-reductionist essay, chemist-philosopher Michael Polanyi suggested evolution involves a “progressive intensification of the higher principles of life.” Many now view ETIs as both yielding and requiring this serial emergence of biotic capacities for a “greater good.”

But it is important not to romanticize this pattern. While the simplistic nihilism of “all’s selfish” is clearly wrong, it’s equally unwarranted to slip into a schmaltzy “all’s good” idealization of nature. Any understanding of greater good or collective flourishing must recognize the ambiguous interplay between supports and subversions of its attainment.

Although selfishness may not have the last word, it certainly retains a vote. At each emerging stage, there is possibility of conflict, now at two levels. The new “individuals” can compete with each other. And there can also be tension between the emerging higher-level entity and its previously autonomous constituents, which may defect on the collective. Any cooperative enterprise involves the opportunity for selfish gain through failure to do one’s share or taking another’s share. In social interactions between organisms we recognize many forms of free-riding or exploitation. And within animal bodies, individual cells may go rogue and insist on their reproductive autonomy to the detriment of the whole, in what we call cancers. Even in single bacterial cells, there are “selfish genetic elements.” A stunning example is DNA that reproduces apart from chromosomes and that—like Mafia selling protection—secretes a toxin into the cell that kills any daughter cell that doesn’t also contain the antidote it makes.

So while not determinative, it remains the case that “selfishness is pervasive and manifests at all scales of biology, from societies, to individuals, to genetic elements within a genome.” The marvel of living systems and the evolutionary process by which they have
emerged is that they have developed strategies that expand and solutions that stabilize cooperative interdependence, not in the absence of, but in the continuing face of “selfish” challenges that stand to subvert biotic “greater good.”

This flourishing through escalating cooperative interdependence is wondrous, but it does not constitute an ethical trajectory or a moral arc. It involves cooperative dynamics that are extended and conflicts that are navigated by the distinctively human moral enterprise.

THE MORAL ARC

Human beings are the most intensively and extensively cooperative creatures on earth. Our division of labor, cooperation with unrelated individuals, and social interactions across large groups have been described as representing a “huge anomaly in the animal world.” But setting aside the debated question of just how much difference in degree is required to constitute a difference in kind, there is no disagreement that “human cooperation exceeds that of all other species with regard to scale and range.”

The wondrous capacities of life for self-maintenance are not the same as being “selfish.”

In terms of intensiveness, we invest in long-term dyadic or small-group relationships—not just collaborations but “friendships”—that are based on neither kinship nor strict reciprocity. Indeed, the distinguishing, wonderful, and somewhat mystifying mark of being friends is that we do not vigilantly keep tabs on payback. The threshold of trust and ease, where a confederate ambles into my kitchen and forages in the fridge without asking, has always been precious to me. Evolutionary anthropologist Joan Silk refers to “cooperation without counting” as the puzzle of friendship.

This is not to say there is no mutuality. Of course friends help—and rely on each other to help—in times of need. But this help is often (and most notably) extended when the other’s need is so intense that compensatory return isn’t guaranteed, or even likely. Or, through gifts or skills that others have but we lack, friends may aid us in ways we could never repay. Such enduring commitment may be especially crucial in a uniquely social species like humans, whose long life ranges across unpredictable periods of adequacy or deprivation.

And beyond, or perhaps underlying, the provision of help, friends resonantly enter in to one another’s joys, sorrows, and yearnings. Poignantly, Aristotle even referred to friends as a “second self.” A profound we.

Importantly, friends constitute a we not merely in virtue of being attentive to each other’s needs, but also through a shared gaze beyond those needs. A distinctive quality of human friendships is that they are often convened around mutual commitments that ostensibly have little directly to do with the material success, much less the evident reproductive interests, of the individuals. We jointly pursue and encourage one another in moral ends. And we may also cultivate non-moral goods: common interests in music, literature, an area of scientific inquiry, even a style of surfing, or—so I am told—obnoxious forms of humor pursued at puzzling investment of time and potential sacrifice of professional reputation.

I must confess to being a little self-conscious about describing attributes of friendships that are so self-evident. But they are surely not self-explanatory, and at face value, may seem to “defy the logic of evolutionary theory,” even to those who formally study it. Although it turns out they do not, the shared ascription and pursuit of value, ostensibly independent of instrumental utility, is especially notable and is something I want to return to later.

The intensiveness of friendships with those we know is complemented by the intensiveness of cooperation with those we don’t know. We cooperate with people we are not related to and have never met—on the basis of reputation, and even across large populations in the absence of reputational familiarity. This has been described as a “spectacular evolutionary anomaly” not only because the observable range of cooperation is so vast, but also because the means by which cooperation is stabilized and defection controlled is so novel. It entails symbolically encoded, culturally transmitted behavioral norms, or morality.

While that observation is uncontroversial, it is by no means simple. There are manifold evolutionary accounts for how our moral capacities arose, how morality does its social work, and what it is ultimately capable of achieving in light of biotic constraints. Even superficially mapping the landscape of approaches to these questions is beyond my scope here. But I want to point out several serial installments of thinking.

In his seminal treatment, sometimes referred to as second generation sociobiology, Richard Alexander observed that human cooperation is extended beyond
kinship and reciprocal exchange by “indirect reciprocity” (IR): your good deed may not be paid back by the recipient, but may be compensated by earning the trust and cooperation of another who sees or even just hears of it. Humans can reward—and punish—by transmitting stories about each other. Thus it may be, as the Hebrew proverb goes, “a good name is to be chosen above riches.” Or a bad name can subvert riches. And morality, according to Alexander, constitutes the rules that mediate accumulation of capital in one’s reputational bank account. Conscience, then, can be viewed as an alarm that goes off when a behavior stands to erode reputational capital.

To whatever extent this view of conscience has some explanatory merit, it is straight-out incomplete in terms of our interior experience. Conscience “goes off” not only as we’re about to do something, but after we have done it. Humans recall past actions, consider the counterfactual possibility that we could have chosen differently, and—in light of what we consider to be right—regret the choice we made. Darwin commented on this relationship between regret and conscience. Behavioral economist Herbert Gintis affirms something most of us (other than a few in public office) know by sad experience: we feel that “being dishonest dirties me.” Conscience isn’t just an alarm that warns us of an impending reputational crash, like a stall alarm in an airplane. It may sound years after a safe landing, via a route that we can’t endorse, even if others do.

But setting aside feelings for a moment and focusing on behaviors, why would someone behave pro-socially if there is no reputational payoff? Why leave a tip in an out-of-town restaurant to which you’ll never return, or refrain from cheating when unlikely to get busted?

Moving beyond IR and addressing both the feeling and behavioral aspects of prosociality, economist Robert Frank proposed that to the very extent social dispositions are not tied to projections of self-benefit, they may end up benefitting the actor. Nobody wants to cooperate with someone whose commitment wavers with the rate of return. (“Honesty may be the best policy, but he who is honest only for that reason is not honest.”) Reminiscent of virtue-theory, Frank points out that habits of unselfish behavior are not just motivated by, but also reinforce, pro-social dispositions or emotions. Here virtue theory becomes signaling theory. Since these dispositions can be conveyed by hard-to-fake non-verbal displays like facial expressions, they may serve as reliable signals to others of our cooperative commitment. Our past good deeds leave their trace on our bearing, which invites others to cooperate with us. And honest regret about our misdeeds—triggered by conscience—may also be an important signal. So a smile, generated by the legacy of genuine goodwill, really may be worth a thousand words. And a convincing counterfeit may too be hard to fake.

While this sounds highly speculative, several fascinating empirical studies have found that people can in fact detect cooperators apart from reputation or previous interaction. And such detection is even correlated with involuntary facial displays, like smile symmetry. Spontaneous laughter has also been found to be hard to fake, and to effectively signal and generate trust. Perhaps shared humor, waywardly indifferent to reputation, isn’t so puzzling after all!

Both the “moral rules” proposal of IR and the “virtue ethics” proposal of cooperative signaling offer plausible explanations of how human cooperation extends beyond kinship and reciprocity. And each is underwritten by empirical findings. Along with many others, my own view is that they are helpful, but incomplete. The first approach does not account for cooperation that exceeds reputational mediation. And while the second addresses this phenomenon, it does not account for why only humans systematically exhibit it. Other animals communicate social emotions and employ various hard-to-fake displays. Why have only we so significantly extended cooperation by signaling? Moreover, neither approach accounts for the origin of—in fact, each entails the largescale absence of—altruistic behaviors that benefit others at net expense to the actor.

Group selection is one of several attempts to deal with the question of ostensibly sacrificial or other-benefitting behaviors. Darwin himself observed that while “a high standard of morality” might not benefit an individual over others within a group, it will “give an immense advantage to one tribe over another.” And this process is not limited to human morality. Group selection can occur wherever (if ever) the relinquishment of individual benefit relative to other group members is compensated by group success over other groups. “Selfishness beats altruism within groups. Altruistic groups beat selfish groups.” Some formulations of group selection go on to posit the emergence of groups as functional organisms—a greater good—and are even applied to some of the evolutionary transitions described earlier.
Another approach, which need not appeal to group selection, is gene-culture co-evolution. Co-evolutionary theory critiques the famous reductionist dictum of sociobiology that “genes hold culture on a leash” and that the only “demonstrable function” of morality is transmission of “human genetic material.”\(^27\) Philosopher Daniel Dennett, emphatic advocate of natural selection though he is, affirms “our ability to devote our lives to something we deem more important than our own personal welfare, or our own biological imperative to reproduce. . . we also have creeds, and the ability to transcend our genetic imperatives.”\(^28\) Indeed, some degree of cultural “transcendence” is virtually universally affirmed in contemporary evolutionary accounts of human behavior. “Altruism” could even be viewed as a biotic maladaptation, a mental parasite that is transmitted at the expense of both individual and group function. “Altruism” could even be viewed as a biotic maladaptation, a mental parasite that is transmitted at the expense of both individual and group function.

There are manifold and debated formulations of group selection and co-evolutionary theory. A promising approach that integrates both is “cultural group selection” (CGS). CGS posits that human social structure is not just a byproduct of individual competition, but is functionally organized by culturally constructed moral (and other) norms. Respecting the question posed at the beginning of this essay, in the view of CGS, morality may indeed be an evolved adaptation for social function, in some sense like a hypothalamus regulating organismic integration. Indeed, back to my friend’s moral anguish, the emergence of “group-mindedness” in which “We’ are all in this together and are interdependent on one another,” may give rise to (and be based on) our striking capacity to feel collective guilt and shame.\(^29\) Thus groups may be organism-like, with individual members yearning for and contributing to the greater good. And groups that more successfully cultivate interdependent function may differentially succeed over other groups.\(^30\)

A CGS perspective is consistent with the observation that human social structure has developed historically from small, highly interdependent foraging groups, to Neolithic agricultural societies, to immense cosmopolitan states. While these developments were facilitated by the emergence of novel technologies, they also required the development of new cultural norms that expanded and stabilized scale of cooperation.

One current and widely discussed proposal in CGS (in some ways a rehabilitation of earlier functionalist accounts from the sociology of religion) is that notions of “moralizing gods” are a cultural adaptation that enabled the emergence of cooperation in large, cosmopolitan groups several thousand years ago.\(^31\) The idea posits that belief in moral deities, who punish and reward social behavior, not only reduces the social costs of policing defectors, but mitigates IR’s problem of why a person should be good when no one is watching. (However, a society that leaves cheating control up to such gods—whether or not they exist—will be vulnerable to those individuals who don’t believe.) A complementary take runs along the lines of Gintis’s notions of internalization (“being dishonest dirties me”). It is not just cognitive belief in the existence of beings who reward and punish, but the affective apprehension of their numinous presence that underwrites being kind to others. Some religious believers claim to experience moral choices as either intrinsically celebrating or sullying commerce—“friendship”—with divine reality or sacred domains of compelling beauty.\(^32\)

What do we make of this? Martin Luther King, quoting abolitionist clergyman Theodore Parker, claimed “the arc of the moral universe is long, but it bends toward justice.” Does CGS, or perhaps even religion in all its ambiguous variability, trace that arc? Unfortunately, things are not quite that simple. For there is a “dark side” to both group selection and religion. Insofar as they effectively establish group identity and facilitate group success, they may do so in contrast to the success of other groups. Altruist groups beat other groups. But this may entail anything from benevolent service to the disenfranchised, to martyrs in religious warfare.

Yes, there does appear to be a historical “moral arc” with respect to who is included in the group and therefore construed to be in the domain of ethical concern. The maxim “love your neighbor” thankfully involves a lot more neighbors than it did in the past. But it’s not clear there’s an ascending arc to how we treat those we refuse to view as neighbors. The maxim “love your enemy” seems to be an extraordinary, if resplendent, rarity. It is a “spectacular outlier,” as elusive as it was when proposed millennia ago.

The trick, then, might be to cultivate ways of counting more folks as neighbors, by both honoring
and expanding our “neighborhoods.” I want to close by commenting on two ostensible tensions that stand to both challenge and support this endeavor.

One is Dunbar’s number. Evolutionary anthropologist Robin Dunbar posits that managing social relationships is cognitively demanding and therefore limited by the processing power of the brain’s neocortex. Primates, in particular, have ongoing bonded relationships—“friendships”—that are especially demanding. Based on a correlation of neocortex to group size in primates, it appears as though the upper limit to bonded group size is about 150 for humans. And in fact this corresponds to the size of many intensely cooperative human groups across cultures, from foraging bands to military units to religious communes to personal Christmas card lists.33

Of course, this number scales up or down across concentric circles of attachment, from intimate friends to remote acquaintances. Moreover, investment of time varies across these circles. But the point is that there may be both a maximum and perhaps an optimum size of “neighborhood” that can be sustained by attachment mechanisms common to primates or even by reputational mechanisms unique to humans. What morality may do is enlarge the scale of cooperation beyond these mechanisms. Indeed, the history of this enlargement has been referred to as the “expanding circle” of human moral concern.34 But at face value, these enterprises appear to be in tension with one another.

In one sense there indeed is tension. This is evident in perennial debates about obligations to the near and dear versus needs of the more distant but numerous. And this may be part of what is fueling current political debates.

But I want to suggest that there is not an intrinsic functional incompatibility, and there may even be synergism. To whatever extent Dunbar’s number is operative, it reflects quantitative scaling between primate social group and neocortex size, without qualitative sensitivity to unique aspects of human relationality. That is to say, human friendships are so very special compared to other primates in virtue of being attuned but not restricted to one another’s needs. In the sublime intertwining of personal attachment with common absorptions, friends both share and in fact may mutually provoke commitment to moral and non-moral greater goods. This explicit encouragement toward valued ends has been recognized from Aristotle on. And recent empirical work has found that in simple interaction with friends or trusted others, or even in shared activities ranging from music to laughter, out-group vigilance may be relaxed. The “second self” of friendship is both permeable and catalytic.

There is much wisdom to the strategic environmental aphorism “think globally, (so as to appropriately) act locally.” But the relational converse is also true: in caring locally, face to face, we may be stimulated to think globally. Indeed, the ancient religious analogue of this notion is “whoever does not love their neighbor, whom they have seen, cannot love God, whom they have not seen.”

Finally, the other area of tension involves the relationship of humans to major evolutionary transitions or ETIs. There is considerable debate about this, but I think the debate reflects not so much error on one side, as underlying ambiguity. On the one hand, human societies manifest the obligate interdependence, specialized division of labor, emergent functional autonomy, and novel forms of information transmission characteristic of ETIs. In contrast to other primates, humans employ “a new way of thinking in which there is a ‘we’ that constitutes not just my current partners...but all of us in this society.”35 For these reasons some construe human groups as a genuinely new-level organism.36 In this sense my friend may have been right in feeling like part of a social body or an organismic “we.”

On the other hand—and this is an important other hand—human individuals do not evince the same relinquishment of reproductive or developmental autonomy that characterize members of the other ETIs. Organelles in cells, and cells in bodies, and eusocial insects in colonies all have surrendered themselves utterly to the collective in a way that human organisms have not. So my friend was not quite right in feeling like a “cell” in a body.

It’s almost as if we’re stuck between ETIs.37 The biological predicament calls to mind Alexander Pope’s famous “Place’d on this isthmus of a middle state, a being darkly wise and rudely great.”

A generation ago, before the most recent formulations of ETIs, E.O. Wilson observed that humans have “achieved an extraordinary degree of cooperation with little or no sacrifice of personal survival and reproduction...how we alone [accomplish this] is the culminat-
ing mystery of all biology.” We have come a long way in accounting for the uniqueness of human cooperation. But we still wrestle with understanding how to sustain and expand it, since neither biological nor cultural evolution has dissolved human selves (and not just in the obvious sense of conscious agency, but in the sense of organismic actors with individual ends) for the sake of attaining the collective function of our astonishing sociality.

This constitutes both a challenge and a precious opportunity. In his book The Moral Arc, Michael Shermer rightly points out that “making sacrifices for one’s social group is not the same as being sacrificed for the group.” Indeed, on two counts. First, to the extent we have not been sacrificed, we have the chance to choose sacrifice. But second, given the social constitution of our selfhood—the embeddedness of our own flourishing in our embrace of we-ness or second selfhood—it is paradoxically the case that to the very extent we make sacrifices, we are not sacrificed.

There is no moral virtue in being a dutiful cell in a body. There can be no shared yearning for a “greater good” apart from recognition of our own individual good, which (ala Hillel) can be simultaneously invested and fulfilled in pursuit of the greater. The exquisite and anguish reality of human sociality is that self-sacrifice is possible because we still have selves. But in this precarious islet of a middle state, we have selves only insofar as we nurture and are nurtured by other selves in our social body. And this nurture can be extended across the centuries. We return then to Pope’s Essay on Man:

Heav’n forming each on other to depend,
A master, or a servant, or a friend,
Bids each on other for assistance call,
Till one man’s weakness grows the strength of all.
Wants, frailties, passions, closer still ally
The common int’rest, or endear the tie:
To these we owe true friendship, love sincere,
Each home-felt joy that life inherits here.


NOTES
5. E. Szathmáry, “Toward Major Evolutionary Transitions Theory 2.0.” Proceedings of the National Academy of Sciences 112, no. 33 (2015): 10104-10111. It’s interesting to note that when the lichen symbiosis was first discovered, the competition-dominated interpretive milieu generated resistance to accepting such a relationship as possible. More recently it has not only been accepted, but we’ve found it is not limited to just two interacting species.
7. Cited by Thomas Mathus and Herbert Spencer, respectively. Actually, Darwin modified Malthus’s “struggle for existence” to “struggle for life” in the title of his Origin of the Species.
12. Sigmund and Szathmáry quote Michael Polanyi: “We can recognize a strictly defined progression, rising from the inanimate level to ever higher additional principles of life . . . Evolution may be seen, then, as a progressive intensification of the higher principles of life.” They then go on to say: “This progress, nowadays described as a series of major transitions in evolution, is often due to the emergence of new units.” K. Sigmund and E. Szathmáry, “Merging Lines and Emerging Levels.” Nature 392 (1998): 439.
15. “Individuality requires more than just cooperation…individuality depends upon the emergence of higher level functions that restrict the opportunity for conflict within and ensure the continued cooperation of the lower level units.” R.E. Michod and D. Roze, “Cooperation and Conflict in the Evolution of Multicellularity,” Heredity 86 (2001): 1-7.
20. Personal communication from my department chair, Steven M. Julio.

30. However, there is nothing in the CGS model that excludes the above-mentioned (and other) processes working as well. In fact, it may be usefully combined with them. Boyd and Richerson, “The Origin and Evolution of Cultures.” In fact, in Tomasello et al., “Two Key Steps in the Evolution of Human Cooperation,” the authors make the case that fundamental cognitive and emotional capacities for “group-mindedness” were prerequisites for CGS. See also Tomasello’s contribution to this online series, “Human Morality Begins with a ‘We,'” at http://www.humansandnature.org/human-morality-begins-with-a-we; accessed May 7, 2017.
37. We are not the only creatures thus judged. The lichen symbiosis that I mentioned earlier is also deemed by some to halt between an ETI. (See Szathmary, “Toward Major Evolutionary Transitions Theory 2.0.”)
Prehistorically, killing group members was morally condemned, for the belief that “thou shalt not kill” long preceded the writing of the Bible. However, this ancient and universal condemnation was subject to important exceptions. Mercy killing was tolerated, as was infanticide as a form of birth control, while capital punishment was legitimate as a group strategy to cope with extreme, intolerable, and otherwise inescapable acts by social deviants. Such killings were the result of community intentions, and to work they had to be strongly approved—or at least be morally countenanced—by the entire group.

Hunter-gatherers are apt at intuitive political analysis and at social problem solving, and today these moralistic foragers use capital punishment mainly to eliminate bullies. Although this puts the main focus on serial killers and dangerously malicious shamans, they also may kill people who endanger the group cosmologically by breaking major taboos, or individuals who are extremely disruptive socially and seriously endanger cooperation and social harmony.

Before five or six thousand years ago it is very doubtful that even the notion of incarceration existed, for that was when taxation-based states and civilizations came along to provide the necessary infrastructure. Before that, if a socially endangered group could neither cope with nor escape from a dangerous or oppressive group member, physical elimination was the only way to handle the situation.

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As Ara Norenzayan writes, non-literate hunter-gatherers have had no institutionalized religion to help them organize and enforce their moral rules. However, my research has shown that supernatural beliefs have had some important connections with morality. For instance, incest has been universally punished by either realistic social sanctions that may
include ostracism and execution or by supernatural forces that (in belief) inflict birth anomalies or other costs, and sometimes by a combination of the two. However, if antisocial dominators wouldn’t reform, the only sanctioning that worked against the worst socially insensitive or arrogant bullies was actually to kill them.

Some of the worst bullies would have been psychopaths. In the brains of these “natural deviants” the connections with moral emotions (paralimbic system–based) are tenuous, resulting in a lack of conscience and its markers: the strongly-felt internalization of rules, shameful blushing, and feelings of remorse over past transgressions. As a result, such people show little identification with moral rules; rather, they merely have a manipulative cognitive understanding of them.

A conservative estimate of male psychopaths in our modern population would be 1 percent. This would suggest that prehistorically, at any given time, perhaps one out of every twenty foraging groups of about twenty-five men, women, and children was likely to face a problem with an adult male psychopath’s expressing his inborn domineering tendencies. Such dispositions are very predictably associated with these deviants, and their expression creates enormous hostility in egalitarian communities. In addition, highly-aggressive, antisocial non-psychopaths could have added significantly to this percentage, and whenever one of these domineering upstarts could not be reformed, he (they are mostly “he’s”) had to be killed.

Because of psychopaths alone, we humans surely have been resorting to capital punishment for at least 45,000 to 80,000 years or more, depending on when you believe we became behaviorally modern and, hence, morally modern. This means that in our small and usually nomadic prehistoric hunting groups, for at least the past several thousand generations we have been acting as judgmental, self-protective moral communities—groups that can form a consensus and moralistically agree to take extreme measures whenever a social problem becomes bad enough.

Before exploring the possible effects of capital punishment upon gene selection, I must tell you how such punishment works, on the ground, in these small, egalitarian human groups. When a social deviant is deemed seriously dangerous to other group members, they must decide how to eliminate him without causing the group to fission through conflict. Actually, there are two predictable problems. One is such inter-nerve conflict, which damages group cooperation; the other is blood revenge, whereby an angry relative of the person killed takes vengeance on the executioner, even though he acted on behalf of the group. This can destroy the group.

My studies with a dedicated hunter-gatherer database I am developing suggest that a group consensus is necessary, even though close relatives of the victim may make for reluctant participants. They also suggest that to obviate revenge killing by grieving relatives, either the entire community must participate in the execution, or else (and more usually) the group will delegate a close kinsman of the target to do the killing.

We can project these specific patterns backwards in time by using systematic “ethnographic analogy.” This is still a developing aspect of prehistoric research, but my conservative version of it holds that if a behavior is found in all six of the regions where hunter-gatherers have been studied by anthropologists over the past several centuries, essentially the behavior can be projected back to include all behaviorally modern humans.

Today, hunter-gatherers practice capital punishment in all six of the world regions they inhabit—North and South America, Africa, Asia, Australia, and the Arctic—so, minimally, this practice qualifies as being very widespread, both now and in the past. Of course, the sampling afforded by an extensive but imperfect ethnographic record is necessarily spotty for such a relatively rare behavior, so we cannot speak empirically of capital punishment’s having been universal. However, the fact that foraging groups killed serious political deviants in all parts of the world is highly significant, and we may be confident that worldwide, humans have been picking out certain types of deviants and regularly eliminating them over thousands of generations.

Deliberate capital punishment has had obvious, immediate effects on social life; nobody would dispute that, for it enabled egalitarians to maximize cooperation and avoid dangerously disruptive interpersonal domination leading to conflict within the group. However, at this point I would like to raise a profound question about evolutionary process itself. Is it possible that some modest degree of purposiveness has worked its way into what is supposedly a “blind” biological process?
What is of great interest, in terms of possible evolutionary teleology, is that, even as such punishment was reducing bullying behavior in the here and now, at an ultimate level it could have been acting on the human genome to create what might be called “parallel effects” that went in exactly the same direction. This is a clearly matter of causation, in that fewer bullies procreating today would mean weaker bullying tendencies tomorrow.

How do we know these parallel effects could have been in force for long enough to modify our genome, and therefore our very social nature? One would expect no direct evidence for capital punishment prehistorically, but as the Pleistocene ended in France and Spain, African Homo sapiens immigrants had already been painting on the walls of European caves for twenty millennia. Mostly they painted the animals they liked to hunt, but as the Mesolithic transition took place, increasingly they were depicting themselves as well.

Near the Altamira district of Spain we have several unique paintings with groups obviously killing individuals. The best one shows, to the right, ten men evocatively holding their bows over their heads; the impression is one of assertive jubilation. A moderate distance behind and to the left lies a man on the ground with exactly ten arrows sticking out of his body or on the ground. A few other paintings are similar, but with fewer executioners and fewer matching arrows.

The victim could have been a stranger, perhaps a prisoner of war. But given what we know about today’s foragers, it is most likely that this was a member of the same group—a deviant who grossly went against the moral code and may well have broken the egalitarian rule against throwing one’s weight around. Such actively collective executions by entire groups are rather rare in contemporary ethnography, but earlier the feuding tribal Serbs I studied in the 1960s had stoned a pair of deviants to death, a practice that kept kinsmen of the slain individual from targeting any single executioner for revenge. In an adjacent culture area group stonings are mentioned in the Bible, and they also are reported recently in the Moslem Middle East and in Africa.

When the entire group participates actively and simultaneously, no one will know who cast the first stone, and this precludes blood revenge by angrily grieving relatives. However, the predominant hunter-gatherer pattern is for the group to delegate a close kinsman of the deviant to kill him because that, too, obviates a revenge killing.

If we wish to look back beyond those remarkable paintings from the Spanish Levant, we have the aforementioned ethnographic analogy method to work with. And if we follow a maximally conservative methodology and insist that only behaviors reported at least once in all six forager-regions qualify for projection into the past, it is possible to reconstruct the prehistoric moral code that guides such punishment and to do so with some confidence.

As today, these prehistoric hunter-gatherers morally decried a range of behaviors, including not only serial murder or sorcery that led to undue domination, but theft and cheating, failure to cooperate, and breaking of taboos, including incest. All of these strong prohibitions qualify as being widespread in the past, and any or all of them may have been cultural universals.

As for methods, coping with these deviants comes mainly in the form of gossiping, exerting mild social pressure, active group shaming, ostracism, and, finally, execution. If we look for worldwide distributions, perhaps surprisingly the widest geographic distribution is for capital punishment, which is reported in all six regions. Although I believe that all of these sanctions may be universal, group killings are so widely reported that I am tempted to say that, when really extreme social problems arise, more often than not a small group’s only way out is to kill the deviant.

To arrive at these patterns I have created a hunter-gatherer database of sixty-five foraging societies, chosen because they are suitable for analogizing to the Late Pleistocene. Some of the reports are detailed enough to reveal political dynamics, which tell us that these executions were intentional, well calculated, and highly patterned. One major, short-term effect was
that an egalitarian lifestyle could be maintained, with none of the hunters being in a position to dominate his fellows. The long-term effects were that genetic tendencies that favored bullying behavior were being reduced, which would have resulted in some significant reduction of bullying dispositions, in general, and also a lowering of rates for psychopathy. However, it is obvious that these monsters didn’t go out of business entirely.

Capital punishment definitely existed in the Late Pleistocene, but what about ancestral precursors? Both chimpanzees and bonobos are prone to occasional lethal gang attacks within their groups against aggressive high-ranking males, and while their motives appear to be mixed and sometimes unclear, the overall similarity to human capital punishment is apparent in the collective and patterned nature of these assaults.

In *A Natural History of Human Morality*, Michael Tomasello argues that our morality is based on the kind of collective intentionality that philosopher John Searle talks about, and that chimpanzees must be denied such a capability. This would mean that somehow humans developed this capacity without ancestral pre-adaptations, which amounts to an unexplained evolutionary saltation.

Tomasello’s experience is with captives, and perhaps more important it is with experimental captives behaving as dyads. In the more natural-sized captive groups studied by de Waal, coalitions of females will go up against even their alpha male in a coordinated way, and de Waal makes their shared hostile intentions and their awareness of one another’s support quite apparent. They are making sure that the males who need to redirect aggression because they are in a bad political mood won’t use females as scapegoats and beat on them, and they know exactly how to put on a united front.

Wild chimpanzees show similar evidence of collective intentions at work. In working for eighteen months in the field at Gombe, I was able to analyze via videotape both the community mobbing a large python and chimpanzees on patrol. With the python the group appeared to act in a coordinated way, but with very little leadership. On patrol, the alpha male had a leadership role, but it was shared with other high-ranking males, and sometimes their positions became interchangeable. The patrol’s mission was to proceed quietly, surprise a stranger, and make a vicious assault, and they acted as though they shared both knowledge and intention. Their direction of gaze also suggested that before they responded vocally to the enemy patrol that spotted them, they were observing one another for cues. All of this argues for collective intentions at work.

I stopped my African field work in 1990, but two years later I could have observed the very first chimpanzee equivalent of deliberate ostracism. Gombe’s alpha male Goblin had recently been deposed, and when he went to rejoin the group, a gang of males mounted an attack almost as ferocious as those against strangers. They allowed Goblin to escape, and he wisely stayed away for several months. Finally he was able to return, but only in a very submissive role.

Since 1992, almost a dozen further published reports have come in about chimpanzees being gang-attacked in this way by other group members throughout much of Africa. In seven of fourteen cases, the individual attacked fled to temporary exile. Because six of them are known to have died (and there is also a suspected case of a gang-attack death among bonobos), this pattern also can be seen as reminiscent of capital punishment of the aforementioned, actively-collective human type that today relies on group stoning. This suggests that collective, coalitionary attacks against high-ranking group members may have a long evolutionary history, and that in turn this means that humans did not invent either collective intentionality, or capital punishment, out of whole cloth.

Returning to the issue of intention, let me clarify something important. Non-literate hunter-gatherers are and were totally unaware of their actions’ impact on ultimate evolutionary processes. The closest they got to such reflection was when some of their origin myths suggested that humanity developed in stages. For instance, as desert foragers the Navajos believed that our insect-like predecessors lived underground, and that “earth surface people” evolved from them. Otherwise, however, people-without-science have been blissfully unaware of evolutionary processes as we know them.

Suggesting that intentions at any level have affected our biological evolution is highly controversial, and this has a long history going back to the great Darwinian shakeup of 1859, when Deistic origin theories were challenged. In fact, as evolutionary theory was deve-
oping over the past century, there were two noteworthy scientific taboos that have acted as a damper on evolutionary theorizing. One relegated to the scientific scrap heap the imaginative group selection theory created by Charles Darwin, both because initially it didn’t seem to agree with mathematical models, and because some group-selectionists misused the theory. Over more than a quarter of a century David Sloan Wilson12 fought a major battle for this theory, with only a handful of active allies (I include myself, as of several decades ago13). Group selection helps to explain the mystery of altruism, and for a decade now, multi-level selection theory has brought group-selection models into the fold.

The other evolutionary proscription has been the outlawing of teleological thinking of any kind. The history of this taboo is equally deep, and so far the subject has not really been engaged with aside from in The Deep Structure of Biology, a fascinating edited book on evolutionary convergence and the possibility of built-in “directionality.”14

Ever since Darwin, conservative scientists who study natural selection have considered this to be a totally random process, a point persuasively emphasized by Dawkins in The Blind Watchmaker. Dawkins made his case as a vehement advocate of atheism, but more neutrally the evolutionary psychologist Donald T. Campbell said it all, in 1965, in just a few quiet words: evolution is a process that involves blind variation and selective retention.15 All you need is varying individuals, a means of inheritance, and an agency that can select among their traits; that’s it. Later, Campbell16 did become open to the possibility of some lower-level teleology17 being operative in natural selection, while Dawkins remained an absolutist to the end.

In the wake of the earlier, Templeton-funded symposium on evolutionary convergence and “directionality,” archaeologist Robert Foley decided that the processes of selection and adaptation give the illusion of purpose through the utter functionality and designed nature of the biological world, but I have also argued that the illusion of purpose is further enhanced by the fact that selection has clearly favored strongly motivated behavioral abilities and that, in that sense, purpose resides in the genome and phenotype of organisms.18

Foley seems far more open-minded than Dawkins. Of course, Dawkins was mainly worried about denying God as purposeful creator, as he upheld a taboo that often serves as a useful curb on the scientific imagination. This was not the case with William Hamilton, however, when he semi-seriously suggested that playful (and apparently omnipotent) extraterrestrials might actually have created natural selection and were using planet earth as a kind of experimental zoo for their observations.

It is quite different to ask if there could have been some more realistic, less comprehensive purposive agencies within the natural selection process, for instance, having to do with the “strongly motivated behavioral abilities” mentioned by Foley. Could they have introduced some degree of purposefulness into a process that everyone had been agreeing was totally blind?

Some rather subtle distinctions are involved. Ernst Mayr distinguished between teleonomy, which characterizes processes that appear to solve problems purposefully but in fact are purely mechanical, and teleology, which means that purposeful agencies (supernatural or otherwise) are, in fact, influencing evolutionary outcomes.19 Mayr’s view would be that when Darwin’s finches acquired a variety of task-dedicated beaks, the process was entirely “mechanical.” The evolutionary biology community would agree with him, and for all practical purposes so would I, but only as long as this restriction does not carry over 100 percent to animals with much larger brains.

This evolutionists’ venerable taboo against teleological thinking may basically hold for analyzing smaller-brained species, and overall it makes a great deal of sense. But I shall suggest that outlandishly powerful brains make human purposes quite different from those of finches whose hungry beaks are selected straightforwardly on the basis of feeding efficiency. We need only to look at capital punishment and its long-term effects on the human genome to see that something more complicated can be at work.

When a group purposefully singles out a domineering bully to eliminate him in the prime of life, that bully’s procreative career will end. He will also be unable to support his breeding partner, offspring, and relatives. This definitely can change a gene pool, and it is the social and not the physical environment that is
at work. Such a culturally and morally-based behavior obviously relies upon a great deal more brain power than being a well-fed finch does.

Here, in the same breath, we are speaking in terms of both evolutionary theory and philosophy of science. What links certain moralistic purposes of hunter-gatherers to biological evolution is that the long-term, ultimate genetic effects of social sanctioning go in exactly the same direction as the short-term, intended effects, which are simply to suppress bullying behavior in the here and now. In the face of these parallel effects, I believe we must at least be open to the possibility that just for humans, not all natural selection processes are antiseptically devoid of purpose.

The quotation from Foley places this reasoning in perspective because it suggests that in many species, short-term purposes are inherent in the psychology of making decisions. When a lizard chooses one ant rather than another to flick its tongue at, this is a decision, and the making of such very immediate decisions is an evolved property of many species with modest brains. A question I shall not try to answer is whether this amounts to intentional input writ very small; what I do believe is that humans are the obvious venue in which to open the debate and that capital punishment is a most suggestive example.

Humans consistently make genetically impactful, collective decisions, ones which reduce the fitness of certain types of individuals such as born psychopaths and others unusually disposed to dominant aggression. This provides some major food for thought. Also worth considering is the larger fact that, in an indirect but important way, our species seems to have been domesticating itself through purposive capital and other punishment.

The first recorded instance of domestication has us turning wolves into the dogs we love, and very likely some kind of “passive” domestication began at least 15,000 years ago, when we began to feed predators lurking around our camps. At some point they became pets, and domestication became more active as promising litter members were chosen as suitable future pets. We obviously would have gone for the nice individuals, not the nasty. Capital punishment has had similar consequences, and for a much longer period of time, but the process is much more complicated. As an effective type of social problem solving, this killing of fellow group members is very well focused. When humans crack down on bullies, we do this through concerted social cooperation, in order to solve specific problems we understand and know we can cope with. The cognitive assessments have to be quite sophisticated.

In killing off such troublemakers we surely have been “domesticating” ourselves, but I emphasize that this genetic consequence has been far from being on our minds. In spite of this ignorance, however, it is equally emphasized that our very immediate intentions can be effective, sometimes, in shaping the human genome. This takes place when the immediate and the long-term, ultimate effects are very similar.

It is by using symbols that we can reach a group consensus, and engage in purposive, highly focused, and consequential collective action that has reproductive consequences, while the continuity of cultural traditions ensures that over evolutionary time, we will be continuing to solve the same problems in the same ways. It is this continuity that has made it possible for our everyday problem-solving to help to shape the human genome.

For exemplification of such lower-level teleology, capital punishment was a real find. However, there is another, less obvious moral example that also is suggestive. In The Biology of Moral Systems, Richard D. Alexander came up with the idea of indirect reciprocity, which explains altruism as follows: in theory, altruists are doomed genetically because by definition they give away resources to non-relatives, which means that free-riders who don’t reciprocate should flourish at their expense. However, in small human groups the obvious altruists gain superior moral reputations, and when other people select spouses to breed with or other partners in cooperation, altruists with good moral reputations are chosen preferentially. This more than compensates for the costs of being generous to non-kin, and in humans this would have been a very significant factor in the evolution of our unusual altruistic traits.

Altruism appears to provide the more limited example of lower-level teleology at work, since the decisions are individual, and the genetic effects seem less extreme. Collectivized capital punishment is far more impactful and dramatic. But in both cases purposeful decisions are shaping the genome in ways that make us more pro-social. In effect, this inadvertent self-domestication has made us nicer as a species, and it has done so precisely because our evolved psychological preferences reveal a dislike of being dominated and also a desire to associate with altruists.

Now let us return to the larger philosophical issue
I have raised, that of teleology. Kill a bully today, and—whether you realize it or not—you will be subjecting the human genome to modification precisely because, causally, you are reducing species-specific tendencies to act the bully. From the standpoint of philosophy of science this suggests that with our large-brained species, some lower-level teleology could be creeping into evolutionary process, at the level of both collective intentions and collective decisions.

With both capital punishment and altruism, patterns of sophisticated choice have been working consistently over evolutionary time to create these parallel effects in our genome. Hopefully, faced with this information, the taboo against even asking this type of question will begin to lift.

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NOTES
9. Funding for this project has come from the John Templeton Foundation and the Goodall Research Center, University of California.

Photo credit: Execution Group at Remigia, Castellon, Spain from N. K. Sandars, Prehistoric Art in Europe. 2nd revised ed. (New Haven: Yale University Press, 1995), 162.
Why a Human Rights Tribunal?

By Tom Kerns

Why would a tribunal—specifically, a human rights tribunal—be asked to rule on the health, climate, and social impacts of fracking? Why would human rights be the standards against which oil and gas production should be judged? And why would the Permanent Peoples’ Tribunal in Rome be the tribunal asked to hear those cases, especially given that it has no subpoena authority and no authority to compel behavior of litigants?

These three questions can be condensed to: Why human rights? Why a tribunal? Why the Permanent Peoples’ Tribunal?

Why Human Rights?

The important thing about norms—and specifically, about human rights norms—is that they set standards, both legal and moral, for what duty-bearing governments and corporations must and must not do. These standards, which apply universally to governments and corporations, draw a clear line between behaviors that are considered morally acceptable and those condemned as morally reprehensible.

Human rights standards are also universal, not parochial. They are not limited to certain groups, religions, nations, or situations. This way, a state or a corporation cannot say, “Well, that may be what you and your group believe about right and wrong, but we simply do not share your values.” Rather, human rights are universal in at least these following three senses.

First, they are universal in the sense that they arose out of a broad human consensus across the world. As human rights scholar Johannes Morsink has reminded us, the 1948 adoption of the Universal Declaration of Human Rights (UDHR) was the first time in human history that representatives of virtually every nation on earth came together and formally adopted a statement of moral values.

Second, human rights are promulgated universally. The UDHR is, for example, the most widely translated document in the world. To date, it has been translated into over five hundred languages, including at least two sign languages.

Third, human rights standards formally apply to all persons everywhere because of the simple fact that they are human persons. According to the United Nations High Commission on Human Rights: “Human rights are rights inherent to all human beings, whatever our nationality, place of residence, sex, national or ethnic origin, color, religion, language, or any other status. We are all equally entitled to our human rights without discrimination. These rights are all interrelated, interdependent and indivisible.”

We can say, therefore, that human rights—at least, those articulated in and implied by the UDHR—are the closest thing the world has ever had to a globally
agreed upon set of moral norms. This is remarkable.

Again in 2005, a World Summit of Heads of State and Government also adopted a statement recognizing the universality of human rights and affirming that states are committed to fulfilling them:

We reaffirm the solemn commitment of our States to fulfill their obligations to promote universal respect for and the observance and protection of all human rights and fundamental freedoms for all in accordance with the [United Nations] Charter, the Universal Declaration of Human Rights and other instruments relating to human rights and international law. The universal nature of these rights and freedoms is beyond question. 4

Finally, human rights standards are recognized as taking precedence over other, potentially conflicting considerations in policy making such as utility, cost-benefit analysis, economic value and social value. As human rights scholar Jack Donnelly puts it, “rights are prima facie trumps,” and as American legal philosopher and constitutional scholar Ronald Dworkin says, “Individual rights are political trumps held by individuals.” This means that rights claims take precedence over other considerations when issues of rights are at stake. 5 The institution of rights, says Dworkin, “represents the majority’s promise to the minorities that their dignity and equality will be respected,” and therefore, that rights must be given the greatest weight in policy-making decisions.

But what exactly are human rights? Human rights standards, we can say, are justified moral claims universally held by all persons vis-à-vis their governments so that people can lead a minimally decent life. As Dworkin puts it:

As approvingly noted, these basic human rights are not just lofty aspirational ideals. Most, rather, are moral floors, moral minimums, delineating the most basic requirements for a person to live a minimally decent life. Failure to respect these minimal norms offends the conscience and often provokes moral outrage. Even the Preamble of the UDHR reminds us that disregard and contempt for human rights can trigger justifiable outrage. 9 One of the drafters of the UDHR, Carrare Andrade from Ecuador, spoke for many of his colleagues when he said that the Declaration “was the most important document of the century, and indeed ... a major expression of the human conscience.” 10

In many ways, compassion can be seen as the ground from which recognition of human rights has grown. 11 This may be one reason why human rights litigation relies so heavily on direct personal narratives of people who have suffered as a result of government and corporate failures to respect human rights. These personal narratives provoke the moral imagination, inspiring hearers to feel and appreciate the pain of others and to demand a response.

So just as civil laws represent hard legal boundaries outside of which certain behaviors are not legally permissible, human rights standards represent hard ethical boundaries outside of which certain behaviors are not morally permissible. This means that when a government or corporation is being held accountable for failing to respect their human rights obligations, they are actually being held to only the very lowest standard of moral acceptability.

Another major characteristic of the human rights framework is that it views behaviors and responsibilities less from the perspective of the powerful, the moneyed and the privileged and more from the viewpoint of the uninfranchised, the unempowered, the non-privileged, workers, the injured, minorities, indigenous peoples, women, and children. It also looks at the world through the eyes of future generations who are, in this context, literally voiceless, unable to argue for their own interests. As Protestant theologian Dietrich Bonhoeffer says in his Letters and Papers from Prison, “We have for once learnt to see the great events of world history from below, from the perspective of the outcast,...the maltreated, the powerless, the oppressed, the reviled—in short, from the perspective of those who suffer.” One great gift of the human rights framework is that it gives voice to and validates the concerns of those who, due to circumstance and lack of access to resources and power, need a boost for
their voices to be heard. Human rights standards can advocate for the vulnerable and disenfranchised when they are unable to speak for themselves.

Besides these principled advantages of the human rights approach, there are also significant practical advantages to framing environmental issues such as oil and gas production in human rights terms.¹²

One practical advantage is that human rights discourse provides an established, respected, and compelling vocabulary for addressing wrongs perpetrated by governments against people. The combination of clear facts with the genuine rhetorical power of human rights discourse can be a powerful persuader in environmental advocacy.

The human rights framework has advantages in law as well. If an issue does move into the courts, individual plaintiffs would have three advantages in international human rights courts beyond what they would enjoy in domestic courts:

First, every individual person is considered to have legal standing in international human rights courts, which eliminates one of the larger obstacles to having a case heard.¹³

Second, standards of proof in international human rights courts favor the plaintiff over the state. As Romina Picolotti and Jorge Daniel Taillant explain in their book, Linking Human Rights and the Environment, “Unlike most national courts, the [Inter-American] Commission and Court have low standards of proof.”¹⁴ These courts sometimes admit circumstantial evidence. This can benefit plaintiffs who often have less-than-perfect evidence to support claims of causality and health effects.

Third, the burden of proof would be on the state in such an action, rather than on the plaintiff, even though the state would be the defendant.¹⁵ This means that facts presented by the plaintiff would be presumed true unless proven otherwise by the state.

Another practical advantage of using a human rights frame is that court findings based on human rights law in one country can potentially have positive effects on law and policy in other countries far beyond that one country, since human rights are international and universal. Moreover, using the human rights framework to make a public moral denunciation of certain industry practices can help undermine the social license of the corporations that use those practices, thereby weakening their social standing in communities.

One important and thoughtful critique of the human rights framework, though, is that it is decidedly anthropocentric as an approach to environmental issues. It is lacking in adequate appreciation for the planet’s non-human beings, webs, and systems, and it can give the impression that human beings are the only kind of beings with intrinsic value. It can also give the impression that humans are separate from nature, above nature, and free to exploit nature as much as they like. Indeed, the failure to adequately appreciate the other beings and systems with which we share the planet is exactly what has led to the environmental catastrophes plaguing the earth today, and appealing only to human rights can contribute to this.

There is much that rings true in this critique. Focusing only on human rights without also acknowledging the inherent (not just instrumental) value of the planet’s other living beings and systems can indeed be destructive. Because of this risk, this tribunal on fracking will include, as described below, a full day of arguing these oil and gas issues from a rights perspective based on the insights and principles of the Earth Charter.¹⁶ While human rights will be the central focus of the plaintiffs’ arguments in this case—partly because the court in which this case will be heard, the PPT, is a human rights court, and partly because human rights are already well established in law—still, rights of nature arguments will play a key role, too, because the lives and well-being of non-human beings and systems are just as much at stake as the lives and well-being of humans.

If governments and corporations are going to be held to standards, there must be appropriate standards to hold them to. Human rights, buttressed by rights of nature, can provide just such standards and, as we will see below, Human Rights Impact Assessments (HRIAs) can help specify exactly how those human rights norms are threatened by fracking.

WHY A TRIBUNAL?

The important thing about standards, including human rights standards, is that their power to persuade or compel is weakened if they are not widely known, publicly acknowledged, regularly appealed to, and exercised. The function of a tribunal is to do just that.

MINDING NATURE 10.2
This is one reason the world needs more human rights courts and why, with so few of them yet in existence and with access to them so difficult, it will be up to civil society organs, as we will see below, to create and maintain such courts independently. The presence of such human rights courts, whether state-based or civil society–based, can strengthen human rights claims and make them more effective.

One challenge, though, is that human rights norms can be rather general, at least as expressed in the formal declarations, conventions, and treaties that constitute human rights law. Without clarifying and specifying those norms to particular situations there may be questions as to whether or how a certain human rights norm would be applicable to a given situation. Does the right to security of person, for example, apply to families in rural areas who are impacted by commercial aerial pesticide sprays? Does the right of women and children to special consideration apply to families living near hydro-fracking operations? These are questions that courts will ultimately decide, but a well-researched Human Rights Impact Assessment, specified to a particular situation, can be a big help in clarifying and specifying the moral issues at stake. An HRIA that foregrounds and documents human rights standards particularized for a given situation can be a powerful tool both in advocacy generally and in a human rights tribunal specifically.

Three HRIAs of fracking have already been conducted and published so far: one commissioned by Earthworks and specified to fracking in New York State; one commissioned by the Bianca Jagger Human Rights Foundation about fracking in the United Kingdom; and one prepared by the Sisters of Mercy and Mercy Global Action framed in broader terms for fracking as a whole. All three have slightly different formats, but most include the following elements somewhere in their structure: (1) a list of basic, agreed-upon facts about fracking in that specific situation and community; (2) a simple listing of the community’s concerns; (3) the specific human rights norms at issue, where each norm can be found (covenant title and article number), what that article says and means, and why that right would be applicable in this particular situation; (4) an enumeration of the risks faced by the government or corporation that is permitting or conducting the fracking; and (5) detailed recommendations for what the government or corporation should do to reduce those risks and to meet its human rights obligations.

HRIAs like these can also be useful tools for litigators and their researchers as trial strategies are being developed and cases being built. An HRIA can help them assess, for example, which issues and rights might best be foregrounded at trial.

The 2011 Human Rights Impact Assessment for Fracking in New York, for example, identifies adverse health impacts resulting from exposure to fracking processes and emissions as threatening the right to security of person. “Everyone has the right to life, liberty and security of person” (UDHR Article 3; International Covenant on Civil and Political Rights [ICCPR] Article 9) and any government’s failure to prevent this is a failure adequately to respect this right.¹⁸

The right to security of person is threatened as well by all the consequences of climate disruption caused by CO₂-intensive fracking processes and by the CH₄ (methane) emissions, both fugitive and intentional, that result. Climate disruption also threatens the right to a healthy environment, as expressed in the Preamble of the Aarhus Convention:

Every person has the right to live in an environment adequate to his or her health and well-being, and the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations.¹⁹

All this was confirmed recently when federal Judge Ann Aiken wrote in her November 2016 opinion in Juliana v. USA et al., that “the right to a climate system capable of sustaining human life is fundamental to a free and ordered society.”²⁰

Reports prepared by the UN High Commission on Human Rights and by the UN Environmental Program about the human rights dimensions of climate change will be helpful here too, as will the newly developed Declaration on Human Rights and Climate Change.²¹

The right of citizens to participate in decision-making about environmental matters such as fracking is guaranteed by, among others, Article One of the Aarhus Convention, which states that governments “shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters.” This means that citizens have the right to full information about environmen-
tal issues being considered and the right to participate knowledgeably in decision-making about those issues. Failure to allow access to information or participation in decision-making about fracking would threaten this right.  

When it comes to fracking’s impacts on ecosystems, though, prosecutors will argue the case based on rights of nature rather than on human rights. While there is a human right to a healthy environment, the case addressing fracking’s impacts on ecosystems will be argued primarily from the Earth Charter perspective that “all beings are interdependent and every form of life has value regardless of its worth to human beings.” Article 71 of Ecuador’s national constitution may also be useful in this context since it includes this formal rights of nature statement:

Nature or Pachamama, where life is reproduced and exists, has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution.

Since the PPT is a human rights tribunal the larger focus will necessarily be on human rights. But to help balance this focus, one full day of tribunal hearings will be designated for arguing the subcases, especially the ecosystems subcase, from a rights of nature perspective.

Facts alone, though, cannot determine what should or should not be done. For that you need a second premise—a value premise. Interestingly, these HRIAs of fracking all have the formal content and structure of a practical syllogism of the sort first brought to our attention by Aristotle. Probably because of my philosophical background and all those years teaching introductory logic courses, it feels oddly validating to me that these HRIAs are so clearly syllogistic.

A practical syllogism, to explain, is any argument form in which the conclusion is: therefore X should be done or Y should not be done. A practical syllogism has two premises, each quite different than the other. The first is the facts premise which basically claims “this is the state of affairs,” or “given these facts.” Facts alone, though, cannot determine what should or should not be done. For that you need a second premise—a value premise. So the argument goes like this: given this state of affairs (premise 1) and given this set of values (premise 2), X should therefore be done or not done.

The second premise, the value premise, could include any kind of value, such as “given the importance of maximizing health,” or “given that we should maximize jobs.” Or it could be the values of your religious tradition: “given the principles of Buddhism,” or “given the teachings of Jesus,” for example.

When an HRIA or a tribunal applies human rights norms as the second premise, quite different conclusions will follow.

WHY THE PERMANENT PEOPLES’ TRIBUNAL?

The most important thing about tribunals is that they must be both independent and competent.

A tribunal should be independent of economic and political pressures, independent of national interest pressures, independent in its authority to choose which cases it will hear, independent in selecting its own judges, independent from those bringing and arguing the cases, and independent in its deliberations and rulings.

The Permanent Peoples’ Tribunal is independent in all these ways. It was founded independently in Bologna, Italy, by a range of legal experts, writers, and leaders in civil society, including five Nobel Prize laureates, under the auspices of the Lelio Basso International Foundation for the Rights and Liberation of Peoples. Now headquartered in Rome, it is internationally recognized as a human rights tribunal functioning independently of state authorities, national politics, and vested economic interests.

The PPT independently chooses which cases it will hear, and it selects and impanels its own judges. Plaintiffs whose cases have been selected for hearings have no say at all about whom the judges hearing their case will be, just as plaintiffs in domestic courts have no voice in determining which judge will hear their case. Normal practice for the PPT is to select a panel of five or seven judges, about half of whom are jurists trained...
in human rights law and experienced in adjudicating human rights cases, and about half of whom are respected members of civil society. While judges’ travel and lodging expenses may be covered in some cases, they receive no compensation at all for their skill and training, nor for the time and effort they put into the hearings, into their individual and collective deliberations, or into their preparation of the formal rulings, each of which can be substantial.

One reason it is important for a court to be independent is to insure that judges are not influenced by external forces and are able to deliberate freely and to render judgments based solely on the facts and arguments presented to the court.

A human rights tribunal is competent to the extent that its panel of judges includes jurists trained in human rights law and experienced in human rights adjudication. The additional respected members of civil society should also be familiar with and committed to human rights values.

This independence and competence differentiates the PPT from other more ad hoc, self-constituted tribunals sometimes organized and conducted by activists’ groups. These groups sometimes select their own judges, so in those situations, the judges may not be entirely independent and may, in some cases, not be expert in either environmental or human rights law. Most environmental groups, though, would greatly appreciate the opportunity to have their cases heard by an independent and competent tribunal like the PPT, which is one reason civil society needs more access to such courts.

In PPT cases, as in most domestic legal systems, plaintiffs are responsible for selecting their own legal representatives. In cases on fracking, too, plaintiffs bringing the case to the tribunal are responsible for selecting their own litigators, legal advisors, and legal researchers. They are responsible also for gathering evidence, organizing it, and making it available to the prosecuting team.

The PPT, with its independence and its deep human rights competency, is, therefore, ideal for foregrounding and bringing into sharp focus the recognition that human rights are essential standards against which fracking and its impacts should be measured. The PPT is also the ideal court for testing whether fracking and its impacts meet these most minimal standards for ethical conduct and, if not, to publicize that fact and open the door for bringing these matters before domestic and international courts.

Plaintiffs, of course, would like to see a judgment in their favor, but regardless of the ruling, they would like to see the court make clear that human rights norms are fully applicable to oil and gas extraction and production. Their hope is that judges will call governments and corporations to account and urge them to recognize that human rights norms are directly applicable to oil and gas extraction and production processes and to the people impacted by them.

One final reflection on societal sea change: Large scale shifts in social awareness, standards, and policy—as, for example, with women’s suffrage, the abolition of slavery, the growing recognition of civil rights, the Vietnam war, etc.—often come about as much for moral reasons as for anything else. In other words, change of such magnitude often does not fully emerge and take hold in a society until something fundamental changes in that society’s deep understanding of what it believes is morally acceptable and what it condemns as morally reprehensible.

This tribunal—and perhaps others like it around the world—will help societies to determine whether the human health, climate, and human rights costs of oil and gas production being experienced now and soon to be experienced by the next generation will be enough to inspire a sea change in the kinds of energy production technologies they deem morally acceptable.26

NOTES
1. Never before in human history had a document about moral values been conceived, written, and endorsed by representatives of virtually every nation on earth. René Cassin, one of the drafters of the UDHR (who, for his work, was awarded the Nobel Peace Prize in 1968), is quoted as saying that, with the UDHR, “something new . . . entered the world.” It was, he said, “the first document about moral value adopted by an assembly of the human community.” J. Morsink, The Universal Declaration of Human Rights: Origins, Drafting and Intent (Philadelphia: University of Pennsylvania Press, 1999), 33.

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Large scale shifts in social awareness, standards, and policy...often come about as much for moral reasons as for anything else.


5. Donnelly continues: “All things considered, rights may themselves be trumped by weightier other considerations. Claiming a right, however, in effect stops the conversation and both increases and shifts the burden of proof to those who would argue that this right in this particular case is itself appropriately trumped.” J. Donnelly, Universal Human Rights in Theory and Practice (Ithaca, NY: Cornell University Press, 2013, Kindle ed.), locations 227-30.


7. Ibid., 205.

8. Ibid., xi, 90.


13. “One of the most important successes of international human rights law is that it has given victims direct access to international human rights fora. Thus in international human rights law, individuals are subjects of law and can legally claim against human rights abuses perpetrated by states.” R. Picotti and J.D. Taillant, Linking Human Rights and the Environment (Tucson: University of Arizona Press, 2003), 120.

14. Ibid., 133.

15. “That is . . . the facts reported in the petition shall be presumed to be true if, during the maximum period set by the Commission, the government of the State in question has not provided pertinent information to the contrary...If the State denies the evidence, it must specifically prove that the evidence is not valid.” Ibid., 133-34.


21. The first draft of the Declaration on Human Rights and Climate Change, prepared by a team of thirteen scholars from seven different countries on five different continents, was completed in November 2015, ahead of the COP 21 meetings in Paris that year. The draft was later submitted for review globally in nine European, African, and Asian languages to environmental and human rights scholars, lawyers, jurists, indigenous community representatives, NGOs, and others. Well over one hundred thoughtful responses and suggestions were received in response to this review process and incorporated into the final draft. The final version of the Declaration, completed in May 2016, was authorized by the drafting group for distribution and endorsements. See “Draft Declaration on Human Rights and Climate Change,” at http://gnhre.org/gnhre-draft-declaration/draft-declara-
Standing thigh-deep in the swamp, I watched an alligator swim toward Fred. My tripod was set up in the water, and we’d been standing in the same spot, in silence, for several hours. Using his small walking stick he gently tapped the gator, frighteningly huge to my eye, on the snout. It slowly turned and swam away.

Fred was my guide, and this was our first trip together. I’d made several trips to the Everglades to photograph, and had finally given in to the fact that I had to be in the water to photograph a place that is all water. I try to learn what the books have to say before I begin photographing in a new place. But I don’t want to be "guided." I was very lucky to find Fred. He’d lived in Big Cypress for over fifty years and seemed to understand what I have learned: that if I am quiet I can sometimes be part of the place.

But I don’t want to talk about the Everglades. Despite efforts by the Miccosukee tribe and many conservation organizations, it is a sad story, with no sign of political will or anything remotely resembling a land or water ethic. Surely we need a better story today. I want to talk about some places and cultures that embody the ethics that have not prevailed in the Everglades. It is the strength and the gentleness of native traditions and cultures that draw me to the landscapes I photograph. Those traditions and cultures live—or lived—with an understanding of the direct connection between the health of the land and the health of the human community.

After the Everglades, my next two projects took me to Washington’s Elwha River Valley and to Bhutan. Both places gave me opportunities to photograph and, more importantly, opportunities to witness ways of life based on preservation of land, water, and community.

The Olympic Peninsula in Washington is land which is defined by water. Shaped by water, continually re-shaped by water, surrounded by water, it receives in some places, up to 170 inches of rain a year to support its old-growth forests. That rain feeds a multitude of rivers on the peninsula that empty to the west, into the Pacific Ocean, or to the north, into the Strait of Juan de Fuca. These rivers support salmon species, which depend on the rain to send a pulse of water allowing them to move upstream to spawn.

The Elwha River is one of many rivers with its source in the Olympic Mountains of western Washington. The Elwha is not the most spectacular of the peninsula rivers. The drainage seems delicate when compared to the Queets or Hoh, the larger rivers that flow west through rain forests into the Pacific. Until two dams were built on the Elwha in the early 1900s, the river was distinguished by legendary salmon runs. Those dams however, provided no fish ladders, so the migrations ended.
I lived on the Olympic Peninsula and over a period of years packed into Olympic National Park where the headwaters of the Elwha are, spending many weeks camping along different sections of the river. The sounds of a river, from placid ripples to a pounding roar, are welcome and mesmerizing. Intact river systems are fairly raucous places, but in this valley some of the cacophony was missing. Except for the sound of rushing water, the valley was strangely quiet because much of the life that belongs on a river was not there.

The Lower Elwha Klallam tribe—people for whom the salmon have great cultural and spiritual significance—live near the mouth of this river. The wholeness of the salmon’s life cycle is seen as one with the wholeness of life. Science affirms the importance of allowing the salmon to complete the pattern of their journey—to swim up the Elwha, to spawn, and to die. When that was not possible the Elwha people lost their primary food source, as did the black bear, eagle, cougar, river otter, raccoon, skunk, mink, and weasel. In fact, more than one hundred species of wildlife are known to eat salmon in and along that river during one or more stages of the salmon’s life cycle. Birds and wildlife carried salmon carcasses away from the river, and the nutrients from the carcasses fed the riparian forest. Without the fish, the health of the forest suffered. In addition to preventing the passage of fish, the dams also stopped the downstream flow of sediment and wood. Sediment is essential to a salmon’s nest building and spawning, and the in-stream wood provides good hiding spots, predator protection for the fish. Without the wood and sediment, the insect larvae, worms, snails, and crayfish that live at the bottom of the river and are food for birds and small mammals could not survive. Sediment is also needed to replenish the nearshore (comprised of shoreline, lower river, and estuary, and extending out one hundred feet from the low-tide zone) and the beaches at the Elwha estuary. Starved of sediment, the nearshore deteriorated. The beaches eroded, eelgrass beds died off, and the population of herring diminished. Nearshore is also a critical environment for otters, birds, and juvenile salmon transitioning from the freshwater river to the sea, where they spend their lives until returning to spawn.

Salmon have a natal stream; they “know” that to spawn they must return to the river they came from. For a century, generations of salmon that had their origins in the Elwha gathered at the Lower Elwha Dam, bumping ferociously against it in an effort to get upstream and spawn. In August 2014, after a century of living with the dams and two decades of negotiations, the Lower Elwha people were able to see the last pieces of the dams removed. Now the salmon can pass, and the river is coming back to life. Fish move upstream and spawn, huge schools of herring and smelt collect near the estuary, and with sediment moving downstream, aerial photographs show a startling rebuilding of the beaches at the mouth of the river. Above each of the two dams, where before the dams there had been a narrow river channel, large reservoirs formed that drowned all vegetation. With the river returned to its original channel, and the land that had been inundated exposed, the land is being revegetated with native plants.

At this moment in this country, this dam removal—which has unbound a river and returned it to wild—is the best good-news story I know. The patience and perseverance of the Elwha people demonstrate what a lived water ethic might look like. In my conversations with them, they explained what they and their ancestors had lived through and that they had never forgotten that the dams must come down. The Klallam people were moved from their ances-
tral lands and promised 3,600 acres along the Elwha River. In 1936, after both Elwha dams had been built, the Lower Elwha Tribe were given only 372 of the 3,600 promised acres by the mouth of the river to be used as their reservation. In addition, through a series of legal decisions beginning in 1889, when Washington became a state, and despite existing treaty rights saying otherwise, it was illegal for Indians in Washington to fish until 1974. In 2003 a matriarch of tribe told me about seeing her mother arrested after being “caught” smoking salmon. Even before the Lower Elwha Klallam were recognized by the U.S. government as an official tribe in 1968—while it was still illegal for them to fish—they worked to get the dams removed. A biologist for the tribe explained to me that they consider themselves “protectors of the salmon. We are like family to each other, and we need each other.” They never ceased work on restoring the salmon’s life cycle, and never saw that cycle as separate from their own lives.

By holding to the importance of an intact river system and always passing that intention to the next generation, the Elwha people showed what an inclusive vision looks like. While they had never been listened to before or consulted on any matter about the river, they illustrated precisely what collaboration and the work of allies can do. And within that process of dam removal—work involving a tremendous amount of research and science—they were willing and able to address ethical and spiritual questions about water—the intangible, unquantifiable, values of water. The effort was one of great faith. When I talked with tribal biologists before dam removal, they weren’t sure what the results of removal would be. The Elwha people knew there was no certainty, either optimistic or pessimistic, about what removing the dams would accomplish.

The dam removal process began with lawsuits by the tribe—lawsuits that were joined by the Seattle Audubon Society, Olympic Park Associates, the Friends of the Earth, and the Sierra Club. When it was agreed that the dams would come down, the work of dam removal became a collaborative effort among many agencies including the U.S. Fish and Wildlife Service, the Geological Survey, the National Park Service, the Washington Department of Fish and Wildlife, the National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service.

In his essay about Elwha dam removal, Charles Wilkinson, Moses Lasky Professor of Law at the University of Colorado, writes:

One can hope that broad public involvement will be coupled with an enrichment of our language about water. Our rivers are too diverse, they offer us too much, to be bound up in the bland, confining language of water development. The rivers bring into our lives beauty and joy and contemplation. They inspire us. We feel reverence and wonder and spirituality toward them. They, and the life within them, have their own intrinsic worth. They deserve an ethic. When we speak of rivers, would it not increase the accuracy of our discussions—even the accuracy of our statutes and regulations—to use a broader language and a more inclusive vision?1

While the Lower Elwha people lived in an isolation not of their choosing, the small Himalayan kingdom of Bhutan did choose to be isolated, only beginning to open their country to visitors at about the same time as the Elwha were recognized as a tribe. The country has gradually become known to the world because of the extraordinary protection that restriction has provided for Bhutan’s land and culture.

In 1999 I made my first trip to Bhutan. What drew me were stories about a country of more wilderness than cultivated or developed land, with a government that considers protection of those lands fundamental, and a population with reverence for all life.

The ancient Buddhist and Bon practices that are still alive in Bhutan teach this reverence. More than one-quarter of Bhutan’s territory, covering all its major ecosystems, has been protected. Habitat for plant, animals, and wildlife is extensive and tremendously varied. The Himalayas rise from dense subtropical forest at 700 feet along Bhutan’s southern border with India to 24,000-foot peaks, well above tree line, where Bhutan meets the Tibetan plateau. Bhutan is the exception to the deforestation that has been the rule in the Himalayas, and broadleaf forest habitat, once widespread throughout the region at mid-elevations, now thrives only within Bhutan’s borders. The forest is key to the country’s rich biodiversity.

Between 1999 and 2005 I traveled in Bhutan, spending seven months there altogether. My travels were quite different from those of tourists. I traveled as a guest of the government, and this status gave me considerable freedom to travel to more remote parts of the country. I spent time in nunneries, with village

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families, and I was able to camp. These connections were essential to my understanding of the land and of the Bhutanese people and their relationship to the land.

I went on a series of treks away from the one major road that runs through the middle of the country. There are no maps and often no trails for these treks, so I always had young Bhutanese guides. Most villages can only be reached by walking, and to get to the more remote villages we often walked four or five days. On every trek we met people moving animals or supplies, or taking crops to trade or sell, and no one ever passed without stopping to talk. The conversations were so animated, spontaneous, and lengthy that it seemed these people knew each other intimately. Sometimes they did, but more often not; generosity of spirit, openness, and love of storytelling is simply the way throughout Bhutan. No one passed without an exchange, and when walking in the same direction, the conversations sometimes went on for miles.

There are people in Bhutan intent on protecting and preserving Bhutan’s tradition and culture. Like the Lower Elwha Klallam, they seem able to live without the certainty of an outcome. Dasho Karma Ura, the President of the Center for Bhutan Studies, explained the Bhutanese attitude about the uncertainty of that country’s future, saying, “In this sociologically interesting period in which we live, we await the outcome of our current choices and look to see what the world will become.” He talked with me about Bhutan’s guiding principle of Gross National Happiness, (GNH):

The goal of GNH in terms of governance is also collective happiness, as opposed to individualistic or private happiness. From a GNH point
of view, the most important thing is that the individual should not achieve happiness no matter what the cost to society—either to humans or to other beings. If you achieve your happiness by passing negative consequences on to others, collective happiness is not possible. The understanding of what humans need to be happy is quite comprehensive in GNH. Equally comprehensive is the range of capital that we should value and cherish. GNH, as you can see, addresses development at two levels. At one level, it addresses material needs on the physical realm. It also addresses the inner realm—the intangible, since wellbeing also accrues from the intangible.

Dasho Karma Ura also spoke about the Bhutanese Buddhist way of life that has resulted in the incredible biodiversity of the country:

From a Buddhist point of view, we as people are prone to illusory focus, leading us to behaviors and choices that cause our life course to deviate from happiness. The teachings enjoin us all the time to be aware of that fact. We come back to the realization that although individuals may strive for happiness by their own effort, the fact remains that if the government does not create macro-conditions and policies which cultivate happiness, the individual’s chances of succeeding are lower and narrower. Take the domains of environment, community relationships, good governance, health, education—all of these are very important to our satisfaction and happiness. These things are influenced by public policy; if public policy is wrong, our chances to realize wellbeing or happiness are greatly decreased.2

A Bhutanese judge I talked with in Thimphu cautioned me, “We are human; we have the same troubles, the same problems.” But I continue to see Bhutan as a “geography of hope.” As the country opens itself to the world, those relentless pressures that wear on native cultures, wilderness, and humanity across the globe are at work. While those forces build, Bhutan is further refining its policy of Gross National Happiness, and fish are now running up the Elwha.

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NOTES
It’s very early in the morning, right around the summer solstice of 2011, and we’re three hours north of Salt Lake City, in the high desert of southeastern Idaho. The further we go, the darker it becomes, and colder. Crossing through the fringes of basin-and-range country, the temperature drops into the fifties. By now, Tasha and I are far from the metal halide lamps of the interstate as we follow the back roads across miles and miles of open country, on our way to do some climbing at City of Rocks in Idaho. We’ve been up for almost twenty four hours at this point—we went to work, left early, and flew here from Baltimore early in the afternoon. Now the time spent traveling and the change in time zones is beginning to take its toll on us.

There are spots of light here and there, flung randomly about the landscape, which has now completely lost any sense of scale: the lights off to either side of the car could be two hundred feet away, or twenty miles—it’s that hard to tell. After a while, our own headlights are the only light for long minutes at a time, and the only other lights, when they appear, are dimly distant. It’s been at least an hour since we’ve seen another car on the road, and we’re both succumbing to a weird sort of tunnel vision, like driving through a snowless snowstorm, so we stop right there in the middle of the road.

We kill the headlights and step out of the car. It takes my eyes a moment to adjust, but when they do, they’re immediately drawn to the night sky above us. I’ve never seen anything like it. It’s clear and cold, and so far from any city, the stars just come on in, layer after layer. It’s so dark I can easily see the Milky Way in all its glory and what appear to be many other galaxies and nebulae—gas and dust clouds, ever so faintly pink and purple, blue and green—like a theatrical backlight blazing away behind and between the stars, which are so numerous and diverse in their size and intensity, they bring on a weirdly ecstatic sense of vertigo.

We stare in wonder and silence for a period of time that is difficult to process or describe when juxtaposed against the backdrop of light-years stretching away into eternity. We are thoroughly entranced and absorbed by the magnificence of this facet of nature—night—which at thirty-six years old, I’m seeing for the first time.

But the darkness pulls in everything: shapes and fires, animals and myself, how easily it gathers them! — powers and people — and it is possible a great energy is moving near me.

I have faith in nights.
—Rainer Maria Rilke, “The Night” (Robert Bly translation)
first time in its undiluted form.

After what seems like a good long while, we get back in the car and continue on toward our lodging, amazed and bewildered by what we’ve seen.

The only other comparable experience in my memory occurs fifteen years earlier. While I was studying in England, I visited a friend who had invited me to stay over spring break at his family’s house in the Black Mountains on the Welsh border. After a long bus ride from the northwest town of Lancaster through the English Midlands, followed by a train ride from Birmingham to Hereford, my friend met me at a pub around closing time, and we headed back to his home.

It was a beautiful ride and weirdly enchanting as we exited the main road and began moving up through the hills, which were flanked on each side, right up to the very pavement, by tall hedgerows that drastically limited visibility to what lay ahead of us. My friend took the turns fast as we rocketed through this dark maze for mile after mile, unlit by anything other than the headlights of the car we were riding in.

We finally arrived at his family’s home—a farmhouse that had been occupied since Shakespeare’s day, he said. As we pulled into the drive, only a smattering of light leaked from the house. We got out of the car, and I was struck by how amazingly dark it was, even with the dim light coming through the small windows of the stone farmhouse. I could barely see my hand in front of my face, and that’s no exaggeration.

There was something intoxicating about this place, and it was more than just the quality of the darkness, which seemed to have a depth and character of its own. As I settled into bed in the guest room upstairs, beneath what I recall as a thatched roof, I heard sheep, as if they were challenging me to count them in some sort of roll call. Now near, now far, the bleating of sheep bounced and ricocheted over the hills and against the vaulted ceiling of night, an oddly comforting sound as I drifted off into a heavy sleep.

“Takes my eyes a moment to adjust, but when they do, they’re immediately drawn to the night sky above us.”

In the years since, climbing adventures have taken me to some beautiful and remote spots, especially in the American west, though I’ve just as often been disappointed by the night skies in national parks like Joshua Tree or Yosemite. These are beautiful and still relatively wild places during the day, if you can hike away from the roads and climb above the crowds.

Yet the howl of Joshua Tree coyotes and the primal shadow play of flames from a campfire cast against a backdrop of granite boulders are not quite enough to cancel out the sickly glow in the west that follows a flaming desert sunset like some misbegotten second act. Up high on the opposite rim of the Yosemite Valley, across from the looming walls of El Capitan, as night falls and rope teams start looking for a bivy for the night, one can see the headlamps blink on like some
alternative system of constellations, hanging between heaven and earth in a weird, post-modern limbo.

Perhaps my strangest experience at night in the “wild” occurred at the end of a very long day of climbing at Red Rocks National Park, a series of canyons and towers that rise up to meet a high desert plateau about twenty miles west of Las Vegas. My partner and I had started early that morning, after a long hike in from where we had parked the day before. (We had parked just outside the entrance gate in case we didn’t make it back to our car before closing.)

Halfway up a long route, it began to get cold, and we were already tired, so we started to rappel down to the base of the route for the long hike out. Toward the bottom but still fairly high up, our rope got stuck on the famously sticky sandstone, so we spent some time climbing back up to retrieve it.

As the day faded, we could clearly see most of Las Vegas light up in all its neon gaudiness, burning the desert sky like a spreading tumor. There was so much light up high that we might have done without our headlamps. When we finally got to the base of the climb and descended into the canyon to hike out, things had changed.

Even with a GPS and two bright headlamps we had trouble navigating down the steep talus slopes and through the dense brush that sprang up every time we crossed a wash. We tripped and stumbled through the darkness and underbrush, but eventually found the trail back to the main road.

The main road, as we’d noticed on the ride in, was thronged by new buildings positioned almost right up to the park gates. The experience stuck with me as a particularly surreal juxtaposition: the garish and profane accouterments of a relentlessly artificial and tasteless culture encroaching on an otherwise sere and inaccessible wilderness, with hardly so much as a buffer between them.

In the United States, wilderness is technically defined in terms of the relative inaccessibility by road of any given area. But regardless of the definition, there are fewer and fewer wilderness areas left here, as is plainly evident to any observer looking down at night from an airliner crossing the continent, or even looking down from outer space.

How wild or pristine or remote can a place really be if every night the haze and glare from distant settlements rolls in like a tide to wash away any pretense of a place removed from human development? And to what extent has the advent of electric light altered our relationship with the natural world in which human-kind has been embedded for the entire course of our history? Or for that matter, how has our humanity, both as individuals and as communities, been affected by the proliferation of artificial light?

To look up at a night sky like the one I’ve described in rural Idaho is literally to understand one’s place in the cosmos and to be filled with awe and wonder—to be humbled—even as satellites whiz by overhead and human technologies probe the surface and atmosphere of the closest planets. To characterize it as a mystical, transcendent experience is not far off. David Abram’s seminal work on healing the rift between humanity and the “more-than-human-world,” *The Spell of the Sensuous*, begins with this passage:

Late one evening I stepped out of my little hut in the rice paddies of eastern Bali and found myself falling through space. Over my head the black sky was rippling with stars, densely clustered in some regions, almost blocking out the darkness between them, and more loosely scattered in other areas, pulsing andbeckoning to each other. Behind them all streamed the great river of light with its several tributaries. Yet the Milky Way churned beneath me as well, for my hut was set in the middle of a large patchwork of rice paddies...But by night the stars themselves glimmered from the surface of the paddies, and the river of light whirled through the darkness underfoot as well as above; there seemed no ground in front of my feet, only the abyss of star-studded space falling away forever...I simply could not dispel the profound vertigo and giddiness; the paths of the fireflies and their reflections in the water’s surface, held me in a sustained trance. Even after I crawled back to my hut and shut the door on this whirling world, I felt that now the little room in which I lay was itself floating free of the earth.¹

What Abram’s experience and my own have in common—aside from an almost hallucinatory visionary character—is the fact that we both had to travel to remote locations to truly experience something as extraordinary and yet routine as the night sky in all its glory. That was the birthright of almost every human
being until about 150 years ago. Up until the time Van Gogh painted *The Starry Night*, most people in even the most populous and developed regions of the world would have been familiar with a spectacular and blazingly luminous night sky. Yet as the second Industrial Revolution kicked into high gear and electric lighting began to proliferate in urban areas, people in the global north also began a mass migration to these urban centers to find work in the mills of progress, leaving behind agrarian ways of life and the earthly rhythms and folkways that sustained them.

In post-World War II America, the project of suburbanization began in earnest, laying the automobile-based groundwork for a landscape of consumerism and easy credit, and a community-less society to inhabit it. The physical infrastructure of this living arrangement can be summed up in one word: sprawl.

This sprawl consists not just of the miles and miles of brightly lit roads and highways necessary to provide access between suburban homes and urban workplaces, but whole districts of industrially lit car dealerships and strip malls, gas stations and fast food joints, all blazing away with light: light designed to attract consumers or to repel criminals; light intended to illuminate and make safe commerce and high-speed automotive travel; and ambient light from the lighting fixtures and televisions and computer screens of those who inhabit these placeless places, living in time out of turn, time out of sequence with nature and all things natural.

Most of us living today have spent the majority of our lives in places like this, and so when we have the increasingly unlikely opportunity to experience the night sky as it truly is, as our ancestors saw it, it comes as a glorious revelation.

The phrase “light pollution” then seems less like an innocuous euphemism and more like an existential threat. The glowing haze on the horizon that blots out all but the brightest objects in the night sky is hardly less soul crushing than the clear cutting of a forest or the sight of tar balls washed up on a beach.

How did we ever come to accept this as normal? I wonder this as I type, while the brilliant LED light from the two flat screen monitors on my desk floods my field of vision—two electronic eyes staring back at me with their own unflinching gaze.

American author Clark Strand, in his book *Waking Up to the Dark*, has identified the advent of the incandescent light bulb as “the real tipping point that would eventually guarantee the excesses of the twentieth century—from world wars to climate change to the widespread pollution of rivers, lakes and streams. For all these spring directly from the overflow of human consciousness, for which the flood of light is both the metaphor and the means.”

At the heart of *Waking up to the Dark* is a chapter entitled “A Dark Manifesto,” in which Strand implores the reader to engage in a Dark Revolt, to “Turn out the lights—and leave them off,” often returning to the crucial premise that “it is the overflow of consciousness that the Dark Revolt seeks to turn back and overthrow.”

Returning to that first quote, it’s hard to let go of the weight of Strand’s phrase “*for which the flood of light is both the metaphor and the means*.” I think immediately of Marshall McLuhan, that prophet of the electronic age, and his famous dictum, “the medium is the message.”

Television—and especially its commercial driver, advertising—has probably caused more harm to the planet, with regard to its manipulations of our consciousness toward a path of consumerism, than any other forces in the years following World War II. Broadcast television and advertising are a method for tapping into the most narcissistic components of human consciousness, an erstwhile force creating artificial inadequacies and exploiting vulnerabilities rooted deep within our psyches.

And this critique applies even more to the Internet and the world of social media in which so many of us now spend so much of our time. By putting us all at the center of a universe composed of Facebook feeds and Twitter followers—the ultimate expression of narcissism—we generate the content for our own “televised” dramas without being paid a cent for the performance. Even better, from the advertisers’ perspective, we’re freely providing so much personal data that the forces of consumerism need only respond to this information with algorithmically tailored advertisements targeting to a tee the online personas we’ve built for ourselves.

These technologies—the light bulb, the television, the computer screen—are embodiments of ever more sophisticated patterns of light, carrying information...
of increasingly dubious value that plays on our retinas while affecting our consciousness in increasingly insidious ways.

At one point in our evolutionary history, perhaps that critical juncture at which technology first began informing our consciousness, humanity’s mastery of fire gave us a definitively competitive edge over the rest of the natural world when we needed it most to survive and eventually thrive as a species. For hundreds of thousands of years after this, humankind maintained a relative equilibrium with regard to our place in the natural world vis-à-vis modest use of fire and candle light. But where Strand identifies the moment of humanity’s historically inevitable undoing with the widespread adaptation of incandescent light, I would suggest that its roots go even deeper, extending at least to that so-aptly named phase of intellectual history known as the Enlightenment.

The Enlightenment, as most of us were taught in school, was a culminating victory for the forces of reason and cultural progress, in which thinkers like Locke and Voltaire, Rousseau and Kant beat back the forces of medieval Christian reaction and Dark Age superstition to pick up where the philosophers and scientists of Greece and Rome had left off. This decisive battle signaled the end of a war that had begun with the Renaissance and Humanism, endured through the bloody phase of Reformation-era cultural crisis and religious violence, and came to an end in the eighteenth century, punctuated by the exclamation point of the French Revolution.

It may seem unfair to lay blame for the world’s current troubles on that period of cultural development that brought us such lofty concepts as scientific rationalism and the imperative for human freedom and equality. Nonetheless, it is important to realize that perhaps the most enduring component of Enlightenment thought has been Cartesian dualism, which gave rise to the notion of humanity’s presumed primacy in, and separation from, the natural world.

The rationalism of René Descartes as it relates to science and philosophy formalizes the concept of a schism between human consciousness and the material world in which we exist. Cartesian thought laid the groundwork for scientific materialism as we know it today, and particularly it promoted the notion of separation inherent in the dualistic categories of mind and matter, subject and object, culture and nature.

It is through the broader societal adaptation of this philosophical model of separation, this rift, that the overflow of human consciousness—a superabundance of subjectivity, if you will—emerges and gradually predominates over the course of history leading up to the present.

Philosophers, mystics, and seekers of all sorts, both before and after the time of Descartes, have concerned themselves with the phenomena of subjectivity and human consciousness as it relates to being-in-the-world. Twentieth-century phenomenologists and existentialists such as Husserl, Heidegger, Merleau-Ponty, and Sartre have all sought a new understanding of the process of consciousness, but I have found that Aldous Huxley’s *The Doors of Perception*—an account of the author’s experimentation with the psychedelic drug mescaline—provides perhaps the most interesting analysis of the nature of modern consciousness that I have yet read.

I am struck by many of Huxley’s insights, but especially by his recognition of “normal” sensory experience as a torrential flow of external phenomena that passes through the reducing valve of human consciousness as a tiny stream. Huxley cites the philosopher C.D. Broad, who characterized the brain and nervous system as a type of filter that winnows down the enormity of outward sensory phenomena into something that is manageable to individual human consciousness on a practical level.

“According to such a theory,” Huxley writes, “each one of us is potentially Mind at Large. But in so far as we are animals, our business is at all costs to survive. To make biological survival possible, Mind at Large has to be funneled through the reducing valve of the brain and nervous system. What comes out at the other end is a measly trickle of the kind of consciousness which will help us to stay alive on the surface of this particular planet.”

How ironic that this mode of subjectively aware practical consciousness that Huxley describes—amplified out of all proportion and extended globally by our electrical technologies and hijacked by runaway consumerism—is now driving the destruction of our planetary home.

It is this overflow of human consciousness, passing as a torrent in the other direction now through this metaphorical reducing valve, that prevents from seeping in even so much as a drip of the larger natural
and super-human world from which we are so totally separated. The modern technologically illuminated consciousness represents the eclipsing of an older and historically balanced consciousness by one now given over almost entirely to the world of human culture and individual subjectivity.

Huxley offers rich descriptions concerning his thoughts and perceptions while under the influence of mescaline, and many times he returns to an experience perhaps best described as a recognition of the inherent inter-subjectivity (to borrow a term from David Abram) of the individual in the world. He frequently mentions objects that surround him in his house, where he, along with several others, is recording his observations:

The legs, for example, of that chair—how miraculous their tubularity, how supernatural their polished smoothness! I spent several minutes—or was it several centuries?—not merely gazing at those bamboo legs, but actually being them—or rather being myself in them; or, to be still more accurate (for “I” was not involved in the case nor in a certain sense were “they”) being my Not-self in the Not-self which was the chair.5

Or this passage, in reference to the trousers he is wearing and how his attention has become fixated on a crease in them:

This participation in the manifest glory of things left no room, so to speak, for the ordinary, for the necessary concerns of human existence, above all for concerns involving persons. For persons are selves and, in one respect at least, I was now a Not-self, simultaneously perceiving and being the Not-self of things around me.6

The wonderful dissolving of boundaries between subject and object represents a sort of jailbreak from the prison of Cartesian dualism that insists on the rational separation of mind and body, self and other, material and spirit—the organizing principle behind “enlightened” Western civilization for almost four hundred years now.

Following in the footsteps of Huxley, various advocates for the psychedelic experience such as Timothy Leary and Terence McKenna have urged society at large to adopt the widespread use of psychedelics as a means of recovering a primal state of human consciousness embedded in the natural world.

While the use of psychoactive substances may be one route—and probably the most intense one available—by which one may temporarily experience this state of inter-subjective union with the external world, it is certainly not the only one. As Huxley himself admits, considering Van Gogh’s treatment of a chair and Botticelli’s rendering of drapery, “What the rest of us see only under the influence of mescaline, the artist is congenitally equipped to see all the time. His perception is not limited to what is biologically or socially useful.”

I disagree with Huxley, though, in his assertion that the artist—particularly the painter—is somehow biologically gifted with an uncommon power of vision to see into the fabric of nature and realize its contiguity with human consciousness.

On the contrary, we all possess this faculty, and it is accessible through many avenues. I have myself experienced the sort of inter-subjectivity that Huxley describes while absorbed in various practices of creation and craft. I have also experienced this by physically escaping the noise of civilization, as John Muir and countless others have done, by venturing into what’s left of the wilderness and reveling in the glory of the light and space and air, and staring up at the night sky.

Still many others have sought and presumably found wholeness of being similar to what Huxley describes through meditative and contemplative practice or religious devotion.

David Abram, throughout his writings, has demonstrated convincingly that rapprochement between mankind and the natural world, a condition he calls reciprocity, is possible through a cultivation of sensory awareness that can take place in even the most mundane of settings and requiring no use of drugs or special religious training. He has even shown that the condition tends to manifest on its own in the absence of electrical technologies.

Recounting an episode in The Spell of the Sensuous that occurred after a hurricane disrupted electrical service to the Long Island town where he was then living, Abram observes, “The breakdown of our technologies had forced a return to our senses, and hence to the natural landscape in which those senses are so profoundly embedded. We suddenly found ourselves inhabiting a sensuous world that had been waiting, for years, at the very fringe of our awareness, an intimate
terrain infused by birdsong, salt spray, and the light of stars."

As I write this from our farmstead in the Blue Ridge Mountains of North Carolina, I am turning over in my mind Clark Strand’s proposition that the only plausible path forward for humanity requires a darkening of the literal and metaphoric lights of human consciousness. He has written that the Dark Revolt begins with an act as simple as switching off a light. Revolt in its many forms is very much on my mind in these early days of 2017.

*Bring on the night. I have faith in nights.*

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NOTES

2. C. Strand, Waking Up to the Dark: Ancient Wisdom for a Sleepless Age (New York; Spiegel & Grau, 2015), 43-44.
3. Ibid., 52.
5. Ibid., 22.
6. Ibid., 35
There is an interesting rabbinic text about Rabbi Judah the Prince and his interaction with a calf on its way to slaughter. Rabbi Judah lived during the turn of the third century and was known for his scholarship and wisdom. Through the following passage, however, one can see that even the greatest scholar must be humbled to see the universe through a different lens.¹

While he was walking to his study, Rabbi Judah saw a calf being led to slaughter. The calf ran to him and hid under his coat, wanting to receive mercy from his fate. The rabbi sent him back to his owner, explaining to the calf that he must go back because this was his purpose. The heavens then decreed that because of Judah’s lack of mercy, he would be afflicted with illnesses.

The suffering lasted for several years, until Judah redeemed himself by saving tiny mice that were being swept away by his maid. When doing so, Rabbi Judah referenced Psalm 145:9, which states, “The Lord is good to all, and his compassion is over all that he has made,” explaining that human beings should show mercy and compassion to all God’s works. Because of his kind action, the heavens created a new decree that healed Judah from his previous illnesses.

The importance of animals is oftentimes overlooked in biblical scholarship. Animals are a fundamental part of storytelling in scripture, and not recognizing their presence is a less-than-optimum interpretative course. The calf is an interesting animal to study, specifically because of how ubiquitous it is. Throughout scripture, it is noteworthy that calves are referenced 48 times, and, as a whole, cattle are mentioned 151 times for the purposes of celebration, consumption, metaphor, doctrine, sacrifice, and worship.²

The age of the animal, while important in sacrifice, is not noted in dietary law, so eating veal—the meat of a young calf—was permitted.

The key to the Bible’s view of animals is the interpretation of Genesis 1:26-31, in which humankind has been given dominion over both domestic and wild animals. While biblical injunction gives permission to this end, the definition of “dominion” is problematic and has been the source of much scholarly debate. It is generally assumed that because animals were viewed as a rich and valuable resource, it would naturally follow that the well-being of livestock would serve both animal and human needs. This is not necessarily so. The notable absence of biblical precedence regarding calf welfare in particular may have contributed to the disregard for bovine welfare in antiquity and modernity.

Dominion is commonly defined as an anthropocentric worldview of creation. Its interpretative counterpoint, “stewardship,” focuses more on the responsibility and welfare of creation. Because Genesis 1 has been interpreted as the permission for humankind to utilize the earth for human use, ancient calf handling and modern practices of veal production may indeed reflect the biblical text’s absent instructions regarding compassionate livestock welfare. While the lack of scriptural precedence and interpretative difficulties of Genesis 1 may not be the sole reason for the harsh or cruel treatment of young calves in the modern veal industry, it certainly can be argued that it is a contributing factor in shaping our worldview regarding non-human creation.

One can fast-forward to the modern veal industry and quickly note the anthropocentric practices performed. Thus, modern farmers and consumers are not sensitive to the intrinsic value of God’s creatures. In this essay, I explore contemporary practices in the production of veal, and then turn to scriptural precedent regarding the treatment of calves. My aim is to

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2. The age of the animal, while important in sacrifice, is not noted in dietary law, so eating veal—the meat of a young calf—was permitted.
create a dialogue among religious scholars, animal ethicists, and modern veal producers to promote ethical farming practices for God’s animals.

MODERN VEAL

The word veal derives from the Latin word *vitellus*, which can be translated as “calf.” Cattle are naturally gregarious animals that eat grass and roughage roughly six to ten hours a day. There is a strong maternal bond between a mother cow and her offspring. When cows are ready for parturition, they usually separate themselves at night from the herd for protection. Once they give birth, the mother will begin to lick the calf, which serves three functions: 

- (i) to encourage the calf to stand and suckle; 
- (ii) to clean off amniotic fluid; and 
- (iii) to facilitate recognition of the individual calf by the dam.”

Calves will communicate through olfactory, audible, and tactile signals to show companionship or discomfort with another calf. Through physical contact, such as allogrooming (social licking), “cattle form grooming partnerships with specific individuals within a group.”

The Holstein breed has been selected biologically for mass milk production due to their large and profitable output of milk. For heifers to produce milk, they must become pregnant. In order to gain maximum milk yield for human consumption, their calves, once born, must be immediately removed from them. Since dairy farms have no use for the male calves born to these heifers, they are sold for meat. Thus, the veal industry is a product of modern industrial dairy farming.

When calves are taken away from their mothers, they do not develop a tactile relationship and this would normally lead to anxiety, depression, and aggression for both the mother and calf. The weaning process for calves can become extremely stressful for both the cow and the calf. According to Per Jensen, “if [calves are] separated from other animals, isolated cattle will show clear signs of stress including increased heart rate, vocalization and defecation/urination.”

Because of this, the three bonding stimulants mentioned earlier that are inherent in mother cows have been bred out of Holsteins through genetic manipulation. This is to eliminate the stress of immediate weaning so the cow can focus only on milk production. Holsteins have been genetically selected for a lack of maternal instinct—so much so that they no longer feel protective of their calves. Animal scientist Temple Grandin writes that because the social bonding has been bred out of Holsteins, the cow is “less traumatized than a beef cow when she loses her calf. . . . She’s been bred so intensively for milking that she doesn’t care as much about her baby.”

Roughly 1.2 million calves are raised annually in extreme conditions to meet consumer demand. In order to preserve the delicacy of their meat, male calves are immediately removed from their mothers and
placed in a crate where mobility is impossible. They reside there where they grow to a size that prevents them from physically turning around. This lack of mobility creates atrophy of their muscle tissue, which ensures the tender pink meat that consumers demand.

In these small stalls, the calves do not receive any straw bedding to lie on because a calf could consume the straw, which would change the iron level in his meat. Instead, calves stand or lie on metal slatted floors, which allow manure to fall through to a pit below. Robert Wennberg writes:

As a consequence of all this, the animals are prevented from engaging in a number of natural behaviors: they cannot turn to groom themselves, chew cud, or suckle. Further, the peculiar iron-free diet provided the calves results in anemia...various other health complications, and a mortality rate of 10 to 15 percent.8

Over 55 percent of veal calves develop a respiratory disease due to the unnatural environment in which they are housed.9 They are fed a milk supplement twice a day from a plastic pail until they reach roughly five hundred pounds (usually at about twenty-four weeks old) and are then taken to slaughter. Before the development of animal science in the veal industry, rural farmers would remove the calf from its mother immediately after birth and take it to slaughter. This would yield an animal with ninety pounds of meat—far less than the five hundred pounds produced through modern methods.

Abnormal behaviors, or “stereotypies,” tend to develop in these calves. For example, there is “overgrooming,” in which a calf will habitually lick its coat to accommodate for the lack of roughage in its diet. This leads to internal complications and discomforts like chronic indigestion.10 Also, because these calves are deprived of physical contact and communication with other animals, they will lay with their hindquarters touching the calf in the next stall. They suck and bite on the wood or metal bars in front of them, as well as on the mouths of neighboring calves, called prepuce sucking, to mimic nursing. They also perform behavior called “weaving,” swinging their heads from side to side to promote the excretion of endorphins, which improves their mental well-being. And finally, they may engage in “tongue playing,” rolling their tongues for no purpose. These stereotypies have been proven to negatively affect the physical health of animals involved in other large-scale meat production, which affects meat quality, yet they continue to be neglected in the veal industry.

Holstein calves are separated to decrease disease, yet diseases are more likely to occur due to artificial farming practices. But even with the health risks addressed (such as heart disease, obesity, etc.), the environmental impact and animal welfare issues outweigh the industry’s convenience to humans. Grandin writes, “Calves should be raised with other calves, not in isolation...All animals have to be socialized from a young age, and cows are no exception.”11 Grandin also addresses the biological problems with dairy and veal production. She writes:

“Holsteins have been genetically selected for a lack of maternal instinct—so much so that they no longer feel protective of their calves. The other welfare problem with dairy cows is that breeders have been pushing their biology too hard. There’s a huge difference in strength between baby Holstein and baby beef calves. The little Angus calf will be up and nursing and running with mama a few hours after birth but a Holstein calf is not fully mobile for two days. Breeders have overselected so much for milk production that they’ve created a weak fragile animal that’s so frail it’s starting to be hard to breed them.”12
Cattle are arguably the most important domestic animals throughout human history. They have been utilized for labor, transport, and food. Cattle have proven especially useful for agriculture. For example, anthropologists have found evidence of a short-legged and short-horned cow found in the southern part of Judah that was used for labor because of its docile nature and submission to the yoke. The calf was especially valued by the Hebrews, as seen from the uses described: sacrifice, food, currency, symbolism, prophecy, and even as an object of worship.

Calves in scripture were predominately used for consumption and a model of wealth and hospitality. For example, in the book of Genesis, when Abraham was visited by three gentlemen, he runs to the herd, chooses a calf that is “tender and choice,” and has it prepared for his guests. Furthermore, it can be presumed that the dairy products served came from the calf’s mother, which enhanced the meal (Genesis 18.7-8). These gentlemen (angels/God) are receiving the best foods Abraham and Sarah have to offer. The cows’ welfare is neither mentioned nor acknowledged as important to the story.

In the book of Amos, Israelite leaders are admonished for feasting on the delicacies of veal and lamb, while forgetting their responsibilities to God’s chosen people. It is written, “Alas for those who lie on beds of ivory, and lounge on their couches, and eat lambs from the flock, and calves from the stall” (Amos 6:4). The consumption of “calves from the stall” was—along with “beds of ivory”—a sign of wealth and leisure. What is unclear from this passage is what it means for the calves to be in stalls. This passage could be an example of how a modern veal farmer could use scripture to advocate for calf confinement for human convenience, thus interpreting Genesis 1 as humans having an anthropocentric “dominion” over animals.

The famous parable of the prodigal son includes the detail of the consumption of calf meat for celebration (Luke 15). Once the squandering son returns home, the father, overcome with joy at his son’s return, prepares a feast that includes a fattened calf, celebrating his son as a rightful heir (Luke 15:23, 27, 30). This choice calf (veal) is central to the festive homecoming and denotes the calf’s primacy of place in ritual and celebration.

What is not explained in this passage is what a “fattened calf” denotes in regards to age, weight, or consumption. “Fattened” could describe an older animal, an overweight animal, or how much meat would be served at the feast—it is unclear. Also excluded are the details surrounding the housing, handling, and slaughtering of the animal. An animal studies lens strives to uncover these absent details and biblical mysteries, while also adding a rich dimension to the story, making the calf not a mere symbol of prosperity, but part of God’s loving creation, helping to bring a sinner home. The inherent value of calves in these passages, while culturally based, suggests prosperity and wealth that is only shared at significant moments in biblical history, demonstrating the primacy of calf meat (veal) in scripture.
“But ask the animals, and they will teach you; the birds of the air, and they will tell you...Who among all these does not know that the hand of God is at work here?...Who among all these does not know that the hand of God has done this?” (Job 12:7-9)

The purpose of this passage is to point to the omnipotence of God and God’s hand in all of creation. In addition, because God instructs Job to ask the animals, it demonstrates that animals not only understand their Creator, but also embody animal cognition and sentience. We as humans should turn to them to learn the true nature of God. This is a beautiful way to view God’s creation and nonhuman animals’ awareness and worth.

**BIBLICAL WELFARE**

There is an important account of animal welfare that should be addressed in order to understand scripture and animal cruelty. In Numbers 22, readers are exposed to animal intelligence through a talking donkey that speaks against cruelty. While Balaam and his donkey are walking along a path, an angel of the Lord appears ahead of them with a sword. The donkey is the only one who can see him. Wanting to protect his owner, the donkey turns away from the danger ahead. Balaam beats his donkey because he does not understand why the donkey will not continue forward. God then does something interesting: God “opened the mouth of the donkey, and it said to Balaam, ‘What have I done to you, that you have struck me these three times?’” (Numbers 22:28). Here, the donkey is holding Balaam accountable for his harsh mistreatment. Balaam threatens to kill him if he does not comply. One would presume he would be more surprised about his animal talking. Nevertheless, the donkey responds to Balaam’s harsh words by saying, “Am I not your donkey, which you have ridden all your life to this day? Have I been in the habit of treating you this way?” (Numbers 22:30). What the donkey means is that it must have a good reason for not moving forward.

It is interesting that God allows an animal to speak out against cruelty in this moment. This account describes the donkey feeling pain and vocalizing its discomfort, demonstrating animal sentience and awareness of the current situation. While some would interpret this story as paralleling Balaam’s message to Israel, it holds more than one single lesson. The fact that the donkey is able to see the angel could show that animals are aligned with the Divine and can see the truth behind reality. This is a pivotal example of animal knowingness and intelligence. Before the donkey’s mouth was opened, he was trying to communicate through resistance and apprehension—which is how animals communicate with us today. This passage can be applied to modern animal welfare as a cue to evaluate an animal’s behavior and try to decipher and understand what it is trying to communicate.

Injunctions of the daily care and welfare of calves are not clear from scripture. The first book of Samuel contains a powerful story regarding the yoking of two cows that have never been used for labor. It reads: ‘Now then, get ready a new cart and two milch cows that have never borne a yoke, and yoke the cows to the cart, but take their calves home, away from them.’...The men did so; they took two milch cows and yoked them to the cart, and shut up their calves at home. (1 Samuel 6:7-10)

This demonstrates an unusually harsh weaning process that is executed in order for two milking (milch) cows to carry the Ark of the Covenant. There is no further information regarding the feeding or welfare for these two small calves.

Here lies a welfare issue on both ends. Such an abrupt weaning and the isolation of the nursing calves from their mothers surely caused anxiety for both. This means that the mothers must have been belting to their calves, and that in addition to separation anxiety, they had to undergo the trauma of a new training...
practice that involved carrying a yoke and pulling the Ark of the Covenant. Cattle must be properly trained to pull a load, so expecting them to haul such a sacred object is negligent, particularly when they were preoccupied with the location of their calves. Temple Grandin writes how calves “bawl and scream and pace for three to five days trying to get back to their moms,” while the mothers do the same, trying to find their calves. Having two anxious and unruly animals pull such a holy object seems ignorant and careless. One wonders if the “shutting up” of the two calves has been used to justify the small stalls in modern industrial veal production.

Jesus does not chide the use of domestic animals for human use. In John 10:11, he describes himself as a Good Shepherd. It follows that he would not have done so if he disagreed with the practices of herding and domesticating animals. Jesus was also concerned for the welfare of individual animals, as described in the parable of the lost sheep. His concern for that one sheep’s well-being provides support for individual animal welfare and safety. In addition, in the parable of the wedding banquet in Matthew 22, Jesus attends a wedding where prized bovines are prepared as the main course. Precious oxen and calves are likened to the treasures of the Kingdom of Heaven.

While Jesus does not directly address calf welfare, he does speak of proper bovine care and labor. In the gospel of Luke, he advocates for animals’ feeding and watering, even on the Sabbath (Luke 13:15). Jesus says to the leader of the synagogue and other followers, “You hypocrites! Do not each of you on the Sabbath untie his ox or his donkey from the manger, and lead it away to give it water?” Jesus is adamant that the welfare of animals is important, even on the Sabbath, and that no law is greater than loving God and one’s neighbor, even including animals. While this passage could be interpreted as Jesus’ disdain toward the “hypocrites,” it nevertheless demonstrates that Jesus’ parables address compassionate welfare toward animals rather than disregarding them.

Calf Worship

While the calf was used as a sacrificial animal to worship and honor God, there is a large divide between the practice of sacrificing and consuming calves and concern for the welfare of God’s animals. Camosy writes:

“From the perspective of the Bible, our Christian tradition, and current Church teaching, nonhuman animals are cared for and valued by God independent of the interest of human beings. But it is precisely because most of us do not see nonhuman animals as objectively valuable—and have an important interest in seeing them as mere objects and products to satisfy our desires—that they are a vulnerable population which has been pushed to the margins of society.”

The belief that the earth is only for humanity is an anthropocentric interpretation of scripture. While the scripture writers could not have imagined our modern industrial farming practices, there are a number of passages that could be applied to achieve a sustainable stewardship with the earth. In the Bible, there are multiple accounts of the earth and God’s creatures being theocentric, with God caring for the animals. Take, for example, Psalm 104:

“You cause the grass to grow for the cattle, and plants for people to use, to bring forth food from the earth, the young lions roar for their prey, seeking their food from God. These all look to you to give them their food in due season.”

This is just one example of the many that involve
The ways that calves are bred, housed, fed, and handled are a direct response to consumer demand. This would align with interpreting “dominion” in Genesis 1 as advocating specifically for what is profitable and convenient for farmers and consumers. If a veal farmer wished to interpret dominion as stewardship, she would have to place the calf’s welfare before her own convenience. This would first involve incorporating proper weaning practices, which allow adequate time for the calf to become independent of its mother. Next, calves should be grouped with other calves and allowed to graze naturally on grass. This would benefit the physical, emotional, and social health of the animals and would have the added advantage of promoting more sustainable practices for the environment, such as allowing the calves’ manure to decompose on the pasture, thereby fertilizing the earth. These types of sustainable and humane farming practices are just the beginning of representing a more earth-centered method of farming and recognize the calf’s intrinsic value and worth, which acknowledges the Divine presence in the animal. Christian consumers have the ultimate responsibility to honor God through purchasing products that respect the animal’s life and God’s earth that is giving us food for nourishment. Anything less falls into idolizing our American golden calf.

While academia and popular belief are slowly accepting the value of animals’ emotional well-being and physical presence in literature and scripture, it is still not deemed important enough to effect change in our epistemologies, pedagogies, or interpretations of scripture and therefore our farming practices. It is important to strive for the most sustainable and natural environment for calves in modern meat science and veal production. With the threat of climate change, species’ extinction, and increasing risks to human health, using an animal studies lens to study scripture is more important than ever. Scripture has given us what we need in order to eliminate unnecessary suffering for animals. Even though these veal calves

God’s creation knowing and worshipping their Creator.

Calves were used in the Hebrew Bible as a symbol for worship in different contexts. The most popular story is about the Israelites becoming impatient while waiting for Moses to return from Mount Sinai. Because they felt abandoned by God, during Moses’ absence, they fashioned a golden calf to worship (ironically) from the jewelry God told them to take from the Egyptians upon their departure (Exodus 12:35-36). Moses becomes enraged upon seeing the golden calf and has to retreat to the top of the mountain to speak again with God.

This image of a golden calf being worshipped was not foreign to the Israelites. Calves, or more commonly bulls, symbolized strength and prosperity. While these golden calf stories do not speak specifically to proper calf welfare, they do allow a window into the Israelites’ culture and how calves and cattle were perceived by them in a cultural and religious context. More importantly, this story demonstrates how our own capitalist society has turned away from the true God and toward a golden idol—the mass production of meat—choosing instead to worship efficiency and neglecting to recognize God’s presence in the animals.

It seems that American society still worships and sacrifices calves through modern veal production. According to Nicolette H. Niman, Americans have deemed beef the “King of Meats.” The mere term suggests patriarchal idol worship. Our society reveres the “golden calf” through its overconsumption of meat and questionable production practices—valuing inexpensive quantity over sustainable quality. While this use is markedly different from biblical antiquity in terms of numbers and volume, beef and veal are still the centerpiece of a celebratory diet. Veal calves have been placed on a pedestal as a delicacy—but for whom? Humans are the consumers of this meat. We have put our needs and preferences before those of the animals and therefore before God.
cannot open their mouths like Balaam’s donkey, they show us in other ways that they are in pain. We need to change our hearts and open our eyes to the realities of the golden calf that is before us.

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Photo credit: Julia Johnson

NOTES

4. Ibid., 153.
5. Ibid., 152.
8. Ibid.
10. This type of organ damage directly affects the meat quality and is not in accordance with scripture. In Levitical laws (Leviticus 1), a clean animal can only be consumed if the organs are intact. With this type of damage, the animal is deemed unclean for consumption.
12. Ibid., 164.
14. Ibid., 104.
18. Grandin, Animals Make Us Human, 158-159.
20. See also Job 38; Exodus 23; Leviticus 25; Hosea 4:1-3; Proverbs 12:10; Matthew 6; Romans 8; Colossians 1:15-22; and 2 Peter 3.
For two major reasons, let me thank Pope Francis for putting global climate change and related environmental issues front and center on our moral radar screen. First, he—more so than any of his papal predecessors who wrote on environmental matters—has made it virtually impossible not to be green if one is Catholic. While Popes John Paul II and Benedict XVI addressed environmental matters in papal allocutions, and while a number of regional bishops’ conferences produced documents on the same topic, to date there have been no papal encyclicals outlining the Catholic Church’s position on environmental issues.’ Laudato Si incorporates a great deal of these preceding analyses, yet explores new avenues of theological inquiry that, in my opinion, represent a treasure trove of ideas that can be developed by commentators working in the field of Christian environmentalism. My guess is that Laudato Si represents a watershed moment in the Catholic Church that will occupy the attention of theologians and lay Catholics for decades to come.

Second, the timing of Laudato Si’s publication mere months before the Paris Climate Conference in December 2015 was critical for creating the political momentum necessary to forge a substantive international agreement on reducing greenhouse gas emissions—an agreement that was sorely needed! As commentators have noted, unless greenhouse gas emissions are curbed significantly and quickly, we will likely pass a critical point of no return beyond which the consequences of global climate change could be catastrophic and irreversible. As the leader of 1.2 billion Catholics worldwide, there is perhaps nobody as influential today in swaying worldwide public opinion on seminal moral issues than Pope Francis, and he used his bully pulpit to call people worldwide to a new environmental consciousness that could reap inestimable benefits to humans and planet earth.

After reading and digesting Laudato Si and teaching it to both my undergraduate and graduate students, I have to admit, however, that despite its many strengths there are some formidable flaws in it that limit its practical effectiveness and theological cogency. Indeed, upon reading Laudato Si for the first time, I found myself reacting to it in a way similar to how I respond to my two impetuous teenagers: grateful for all the abundant enthusiasm they represent and for the embodiments of goodness that they will become, but hoping that they mature and get over their adolescent angst and insecurities sooner rather than later. So, in the hope that I can play a small part in nudging the impetuous teenager Laudato Si into an adulthood of a viable and intellectually credible Catholic environmentalism, let me offer some critical comments, beginning with its successes.

Pope Francis begins Laudato Si with love language via his Franciscan spirituality (#1-12), and in my opinion, he is right on target. The progenitor of all that is good in our lives, all the love, the laughter, the friendship, the accomplishment, the kindness and compassion—planet earth and the larger universe, or what we call creation, makes us, our lives, and our participation in created goodness possible. Outside of God, there is perhaps nobody as influential today in swaying worldwide public opinion as the leader of 1.2 billion Catholics worldwide, there is perhaps nobody as influential today in swaying worldwide public opinion on seminal moral issues than Pope Francis, and he used his bully pulpit to call people worldwide to a new environmental consciousness that could reap inestimable benefits to humans and planet earth.
that has dominated Christian environmental thought since the late 1960s. The essential theological elements of the stewardship paradigm are the following: a cosmology developed from the first creation account in Genesis, which distinguishes humans from the rest of creation as being the only creature made in the image and likeness of God; and the unique responsibility of “dominion” being given to humans as caretakers (or something similar) of creation (Genesis 1: 27-8). The stewardship paradigm almost invariably results in an anthropocentrism that regards something as valuable insofar as it benefits humans in some way. It also typically breeds a robust interventionism, for if creation is really ordered toward the satisfaction of human needs and desires, then something akin to the Baconian paradigm of manipulating and controlling natural processes for our benefit becomes almost second nature.

Given the dominance of the stewardship paradigm as the theological backdrop for contemporary Christian environmentalism, Francis’s love language is a breath of fresh air and the beginnings of a potential alternative cosmology and anthropology that could result in a qualitatively different environmental ethic. Yet in Laudato Si it is difficult to gauge the practical moral bite of this potential shift, as despite the love language at the beginning of the document, it trails off in the middle, so that by the time Francis takes up specific environmental issues near the end, it’s unclear whether his love language or the traditional stewardship paradigm is guiding his analysis.

Another new element contained in Laudato Si for which Francis should be applauded is making biodiversity a criterion for ethical deliberation and action (#32-42). The utter uniqueness of earth right now is that it’s the only place in the known universe where life exists (even though it is highly likely that life exists elsewhere). Over time, inanimate matter gives birth to one-celled organisms, which in turn evolve into multicellular creatures, and from there comes an explosion of evolutionary creativity in which diversity and complexity become more and more pronounced. If evolutionary patterns are any indication of God’s will, there is little doubt that biodiversity is part of divine creativity. Nor should this be surprising to those espousing a relational notion of God, as it would make sense for God to construct a universe in which not only life itself, but many forms of life capable of relating to God in distinct and diverse ways, come into existence.

A world of only cockroaches might be good in God’s mind, but oh how much better a world filled with rabbits, wolves, koalas, and humans, too—and whatever other life forms emerge over time!

Moreover, I think Francis’s caution about looking to technology to get us out of our environmental pickles is very sound advice (#102-114). Truth be told, most of us wallow in a fairly well-entrenched technophilia, and like gleeful little kids on Christmas morning waiting to open their presents, we, too, await the next technological gadget to come down the pipeline with a longing that is sometimes quasi-religious. I will readily concede that technology has consistently delivered the goods in terms of making human lives longer, more comfortable, safer, and—for the economic elite, at least—more exciting and filled with a steady supply of things to satisfy a wider range of human desires than ever before. Yet it is also necessary to acknowledge that lurking behind every formidable, long-term, large-scale environmental problem lie a number of so-called technological developments that helped us to create those environmental threats in the first place. So while we remain firmly psychologically wedded to the technological imperative and secretly hope that better technologies will somehow get us out of the formidable environmental problems we have created, we never really raise the question of technology as the problem, even as our technologies continue to undermine our survivability.
nothing in their writings suggest that they regard environmental ills as an imminent existential threat to our species, even though ongoing, large-scale, incremental environmental degradation was apparent to them. Each of them was optimistic that readily identifiable solutions to various environmental issues could be implemented successfully, given sufficient political will power. Francis, on the other hand, is quite somber and pessimistic about anything short of a dramatic environmental conversion and corresponding policy and behavior shifts being able to make a meaningful difference, stating that we are rapidly approaching a tipping point beyond which environmental catastrophes will be the order of the day (#61, #161), and that our only option to avoid such a perilous situation is to act decisively, here and now, to avoid apocalyptic, doomsday scenarios (#161). While Francis ought to be applauded for sounding the alarm bell with vigor, as I believe that his alarmism is very justified, I am also convinced that his recognition of the gravity of our situation dictates a very different kind of document with an alternative agenda in mind, a point to which I will return in a bit.

In addition, Francis, much to his credit, has the temerity to criticize the consumption levels of those in economically affluent nations (#43-52). Truth be told, if one examines virtually any large-scale environmental problem, from global climate change, to deforestation, to declining fisheries worldwide, to growing rates of environmental toxins invading our bodies—and even the bodies of unborn children—at some point we have to admit that they have one precipitating cause, namely, the consumptive lifestyles desired by the world’s economic elite. So, for instance, although less than 5 percent of the world’s population lives in the United States, we use roughly one-third of all fossil fuels consumed per year worldwide, and in terms of overall consumption, the consumer class in North America and Western Europe, while comprising 12 percent of the world’s population, is responsible for 60 percent of private consumption spending worldwide, while one-third of the world’s population living in South Asia and sub-Saharan Africa accounts for only a little over 3 percent.

Finally, Francis, for the first time in a papal document, raises the specter of a potential catastrophic outcome for humans and life on earth if environmental degradation is not reversed soon. Popes John Paul II and Benedict XVI had also issued warnings about the perils of ignoring environmental problems, but
Francis’s disavowal of the population problem, however, seems to run deeper than the typical predilection of the Catholic hierarchy to avoid discussions of artificial contraception or abortion like the plague. This disavowal is based on his extreme skepticism concerning a biased elitist narrative, highly popular and influential in international governmental and policy circles, which blames the poor for the explosion of population growth in certain regions. In Francis’s mind, this is simply a way for the economic elite to deflect attention away from their rapacious consumptive habits and to avoid the uncomfortable reality that a just redistribution of resources would allow the addition of 3-5 billion people this century without undue burden. As Francis writes, “demographic growth is fully compatible with an integral and shared development. To blame population growth instead of an extreme and selective consumerism on the part of some, is one way of refusing to face the issues. It is an attempt to legitimize the present model of distribution” (#50). Francis, it seems, is ideologically committed to ruling out of court any discussion of the growing world population until the resource distribution issue is addressed and rectified.

While Francis might be correct in his perception of elitist agendas at work in the framing and treatment of the overpopulation issue, his refusal even to consider the addition of 3-5 billion people this century under the best of circumstances to be a problem is at best naïve, and at worst dangerous. If Francis is going to have any appeal beyond the most conservative elements within Catholicism, he simply cannot continue to practice his policy of avoidance, as it does nothing but undermine his credibility among the constituencies to which he wants to appeal. Unfortunately, Francis seems so entrenched ideologically in his strategy of avoidance that he doesn’t even mention promising possibilities for curbing population growth that are entirely consistent with Catholic moral doctrine, such as educating girls in poor countries and disseminating...
reduce our carbon footprint near the end of *Laudato Si* (#211).

Fourth, while I realize that papal encyclicals are traditionally intra-Catholic documents that are addressed to members of the ecclesial community and employ language and concepts that appeal to this particular constituency, I think it was unfortunate that Francis ignored virtually anyone outside of episcopal authorities in constructing *Laudato Si*. Other than Paul Ricoeur and Romano Guardini, neither of which to my knowledge had much to say directly on environmental matters, Francis writes as if the academic literature on non-Catholic religious or secular environmentalism didn’t even exist, or perhaps wasn’t worth incorporating into *Laudato Si*. Either way, such neglect, whether intentional or not, at the very least lends an aura of insularity to a document that professes to be quite broad in its intended readership, and at the worst is highly counterproductive, ignoring a very rich and diverse body of literature that could have sharpened its analyses considerably by being incorporated into *Laudato Si*.

Finally, to return to a point I was making earlier, Francis should be applauded for sounding the warning bell about approaching environmental catastrophes. While some might be taken aback by the apparent extremity of his predictions, in my opinion, Francis is neither engaged in fear mongering nor overestimating the danger posed by environmental problems. In fact, I think that his dire predictions are right on target, and that absent a sustained, coordinated, and effective movement in the next couple of decades, we will almost certainly be facing an existential moment for our species, whether in the form of a significant, and quite painful, contraction of the human population on planet earth, or perhaps something close to an extinction event for us. In many ways, our situation is comparable to having two very large and foreboding asteroids headed on a direct collision course with planet earth. We know they are coming, they are headed...
right at us, and unless we do something to alter their trajectory, the collisions will be devastating. My guess is that if this scenario were ever really to occur and governments were to call upon their citizens to embrace austerity measures—even extreme measures—in order to divert needed resources to research projects and technologies intended to knock these asteroids off their collision course with planet earth, most people would do so willingly, maybe even happily, which makes perfect sense. Life is good, and when it comes to existential risks, it is better to do with less than to flirt with disaster.

The environmental equivalent of the aforementioned asteroids are overpopulation and global climate change, each of which, when considered in isolation, represents a formidable threat to humans as a species. However, the fact that they are occurring in tandem makes their disruptive potential even nastier. As stated earlier, the United Nations projects that 3-5 billion people will be added this century to a planet already teeming with 7.3 billion humans, which probably represents the carrying capacity of humans on planet earth. In order to feed these additional humans and to compensate for people transitioning to meat-based diets, the United Nations estimates that grain production worldwide will have to increase by 70 percent this century—a staggering number that is almost unimaginable. Given this herculean task awaiting us, the best thing for our worldwide agricultural system is stability, predictability, and highly favorable growing conditions in order to create a wide margin for error.

Global climate change, however, if it continues unabated, assures that the opposite conditions will obtain, with system-wide unpredictability and rapidly changing and unforeseeable situations becoming the order of the day. These will multiply exponentially the natural vicissitudes with which farmers already have to contend. One needs only modest predictive abilities to see the likely outcome for agriculture: adverse growing conditions, crop failures, food shortages, more chronic hunger, violent conflict over scarce food resources, and starvation.Outside of the agricultural sphere, global climate change, absent significant reductions in greenhouse gas emissions, is likely to bring about a number of system-wide changes to planet earth that are ominous: extreme biodiversity loss due to species extinctions; acidification of the oceans and the death of coral reefs, our planet’s aquatic nurseries; the potential shutdown of thermohaline circulation in the world’s oceans, which would be catastrophic for marine life; loss of glaciers and polar ice caps; rising sea levels that could displace tens of millions of the poorest people worldwide; an increase in the frequency and severity of extreme weather events; diminishing fresh water supplies in certain regions; and health issues that affect the young and old disproportionately, among many others.

So Pope Francis is exactly right. We are at a crossroads, the stakes are enormously high, and the potential consequences catastrophic and irreversible. Given this context, let me suggest that Laudato Si is not the ideal document for the task at hand, even though its strengths in attempting to engender a new ecological awareness are commendable in many ways. Since Francis has ruled out of court any discussion of population growth as a “problem,” the best chance for him to bring about the beneficial, long-term environmental change that he articulates in Laudato Si is to convince Catholics worldwide to combat global climate change. Especially given the momentum generated by the recent Paris Agreement, which includes 195 signatory countries, including the major polluters—the most comprehensive agreement on reducing greenhouse gases ever—it is clear that public opinion on global climate change has shifted and that the possibility exists now, unlike ever before, to implement meaningful changes that will be effective. While this represents an enormously positive development, the danger is that the window of opportunity to reach the targets set by...
the Paris Agreement is rapidly closing, and this could realistically be our last chance to make a meaningful difference before the more dire predictions about the negative effects of global climate change become almost inevitable.

With this in mind, my hope is that Francis will soon publish a follow-up document to *Laudato Si*, one that will be much shorter and focus on one (and only one) issue, global climate change. Other environmental problems are certainly worthy of our attention and action, but global climate change dwarfs them all in terms of its potential to be an existential threat, and unlike the overpopulation issue, no ideological commitments prevent an effective response to it. A brief, focused document would not only garner a wider readership, which is critical if Francis’s appeal is genuinely to reach beyond a Catholic audience, but it would clearly prioritize attention and resources and signal a genuine institutional commitment to combatting it.

Moreover, the document should be unabashedly prophetic, and it should label as sinful those structures, policies, and actions that exacerbate climate change. I am well aware that sin language can be biased and that it has the potential to oppress unjustly, but I also think that if global climate change and its precipitating causes cannot be labeled as sinful, then sin language has lost its function in religious ethics; for how can an existential threat to humans and indeed most of life on planet earth—a threat has been caused principally by the world’s economic elite and has been known about for quite some time—not be regarded as sinful?

Finally, Pope Francis should mandate carbon neutrality for all Catholic dioceses worldwide, including all Catholic institutions within their boundaries, and he should also require a timetable for Catholic dioceses to construct a specific plan for achieving carbon neutrality. Of course, the end goal here is actually to reduce greenhouse gas emissions. Yet outside the realm of effectiveness, such a dramatic move by the leader of 1.2 billion Catholics worldwide could be the beginnings of a moral revolution that would be a beacon of light to countries and governments and could, in the end, not only prevent an untold amount of suffering, but also lay the groundwork for a broader experiment in sustainability, which is precisely what is needed right now.

As we pray that the international determination and willpower represented by the Paris Agreement will achieve actual long-term success, let us not underestimate the ability of moral leadership to effect large-scale practical change. As history has shown, while governments and political leaders can sometimes be effective in inducing needed change, often their ability to persuade is limited. Charismatic religious leaders, on the other hand, typically are not encumbered by similar limitations and can induce widespread moral conversion by calling people to live up to the best and most foundational elements of their religious traditions. My hope is that regardless of the particular measures implemented to reduce greenhouse gas emissions by each of the Paris Agreement’s signatory nations, Francis will sharpen his message, issue a terse and prophetic follow up to *Laudato Si*, and use his bully pulpit to call us to a moral conversion—a conversion that results not only in a firm resolve to make combating global climate change a top priority for Catholics worldwide, but also engenders a boldness and creativity that enables us to imagine new ways of fashioning our institutions, technologies, and individual lives that are far more environmentally benign. If Francis can do this, he might very well go down in history as the impetus behind the most compassionate movement the world has ever witnessed—a noble feat quite consistent with the best of the Gospel message.

“Life is good, and when it comes to existential risks, it is better to do with less than to flirt with disaster.
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NOTES
11. I make a case that in the agricultural context in the United States, a literal reinstitution of either the Sabbath or the Jubilee would be counterproductive and would probably create the conditions they were trying to prevent in the first place. See M. Graham, Sustainable Agriculture: A Christian Ethic of Gratitude (Cleveland, OH: The Pilgrim Press, 2005), 35-37.
12. As Francis writes, “I wish to address every person living on this planet” (#3).
13. My thanks to Peter Wicks of the Elm Institute for his insights on the limits of my asteroid metaphor as applied to the overpopulation issue.
Prior to Gods, Wasps and Stranglers: The Secret History and Redemptive Future of Fig Trees, nothing I had read about trees—and I have read a great deal—informed me of the fig tree’s importance. Perhaps this just goes to show how inadequately and haphazardly we humans value the non-human beings that sustain us. Author and rainforest scientist Mike Shanahan tells us that “over millions of years these [fig] trees have shaped our world, influenced our evolution, nourished our bodies and fed our imaginations”—just a start, really, for he also writes that fig trees could in the foreseeable future “help us restore ravaged rainforests, stem the loss of wild species and even limit climate change.” Obviously, this is a tree we should know a great deal about, and yet I venture to guess that, while we can recall tales of apple trees, oaks, and pines, the dismissive expression “I don’t give a fig” may characterize for many of us our level of familiarity with fig trees.

That won’t be true after reading Shanahan’s book. And maybe the zeitgeist is already at work, bringing fig trees into general consciousness. One of Shanahan’s claims is that fig trees have the power to build bridges “between scientific and faith-based world views.” Shortly after finishing Gods, Wasps and Stranglers, I attended a reading by Ross Gay, a poet whose Catalog of Unabashed Gratitude (University of Pittsburgh Press, 2015) was the winner of the National Book Critics Circle Award and other prestigious prizes. Gay’s Catalog is a hymn to life in all its organic joy, and that is surely a faith-based worldview. Its first poem is entitled “to the fig tree on 9th and Christian” and is the symphonic dance of a group of strangers brought together by sharing the sweet fruits of a fig tree growing, incongruously, on a Philadelphia street. Here, I thought, is support for what Shanahan is saying: fig trees building a bridge between science and poetry, the poet seeing the tree functioning to unite people who share its fruits, “strangers maybe / never again.”

Shanahan makes his home in Folkestone, England. He has traveled to Borneo, Sri Lanka, and Papua New Guinea to study fig trees and the myriad birds and mammals that contribute to their life cycle, and he adds to his own exciting experiences the adventures of other naturalists past and present. With journalistic flair, he links Alfred Russel Wallace’s development of the theory of evolution to a strangler fig, relates how the British botanist E.J.H. Corner put monkeys to work gathering unripe figs, and connects Nobel Peace Prize winner Wangari Maathai’s tree-planting, as well as the capture of the Mau Mau leader Dedan Kimathi, to fig trees. His gathering of fig tree species includes the spectacular and exotic strangler figs, as well as the glossy-leaved Ficus benjamina, one of the most common house plants. For each he has a story. I think I know what talking to Shanahan is like. You mention something, anything—a favorite dessert, your grandmother’s remedy for headaches—and Shanahan says, “That reminds me of a fig tree...”

Readers will be fascinated by the story of fig reproduction and the mystery of a plant that has no visible flowers, an aspect that had naturalists fooled for centuries. It is an amazing tale, as is the story of the rhinoceros hornbill’s nesting habits—a lifestyle so incredible that it would be a spoiler to tell it here. But while Shanahan uses hornbills to get the reader hooked, behind these stories is a desire to notify the world of the threat to hornbills from logging in Borneo’s forests. He expresses great admiration for the efforts of rainforest researcher Tim Laman to save the birds by publicizing them through photos and stories rather than by writing “dry academic papers in science journals few people read.” This approach obviously in-
Shanahan is willing to condense and dramatize his collection of scientific material, but he is equally anxious to convey the fig tree’s century-old impact on culture, beginning with its importance to the survival of the first humans. He devotes several chapters to the fig tree in Egyptian and Greek mythology and gives examples of the fig tree’s prominence in every major religion, even suggesting that a mistranslation of ancient scripture occurred: that in all likelihood the snake in Genesis tempted using a fig, not an apple. Shanahan recites the linkage of fig trees to other creation stories, including the ancient Vedic culture that gave rise to Hinduism, and perhaps most importantly to Buddhism, for it was under the strangler fig we know as *Ficus religiosa* that Siddhartha Gautama attained enlightenment and became the Buddha.

The author is especially concerned about the loss of species diversity that earth is experiencing. This loss affects the fig tree, which requires a very tiny wasp to pollinate its hidden flowers and a collection of habitat-specific birds and mammals to spread its seeds. Not surprisingly, logging, hunting, and the spread of human habitat mean that what figs need to reproduce is in increasingly short supply. The consequence is that more and more, fig trees produce hollow balls rather than fruits. This loss in turn leads to a diminishment of the at least 1,274 species of birds and mammals that figs nourish—a dismal statistic to ponder. In the case of figs, however, there may be a silver lining, as figs have an almost unique ability to reclaim and restart depauperate landscapes. The jury is out on whether fig tree reproduction can continue in a warming climate, but even there, Shanahan suggests, lies hope because figs provide pollinating wasps with a relatively cool refuge.

*Gods, Wasps and Stranglers* is not a big book, and Mike Shanahan has a great deal of territory to cover. For this reason it serves well as a general introduction to human/plant relationships, while glossing over exceptions to the rule that would slow down the text. It is an ideal book for adults with a limited science background and for secondary school students, one that is guaranteed to introduce them to ecology. From its beginning—which features the author clinging to a slippery perch high above a rainforest, only inches from a deadly snake—the writing is exciting. Shanahan’s description of the emergence of the less-than-two-millimeter fig-wasp on a mission to deposit eggs reads like a Superwoman comic or a *Star Wars* script:

The wasp does not have time on her side. With every minute that passes her energy stores deplete and can never rise again...Our wasp escapes only when a gust of wind blows her high into the sky. She has eluded the predators. Now she must face the elements...At last she reaches the fig’s hollow centre. She can complete her mission.

But it isn’t over yet: “Figs are arenas of deadly gladiatorial battles and hasty incestuous sex...in just one day as many as a million insects can die violent deaths inside the figs of a single tree...” What high schooler wouldn’t read on?

This is a book to reverse our increasing distance from life that is other than human. Readers are bound to feel connected to a bridge builder that has played such an important role in human development. In the words of poet Ross Gay, “there is a way / the fig tree grows / in groves it wants, / it seems, to hold us.”

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Joan Gibb Engel is an essayist and poet now living in Tucson. Readers of *City Creatures* and the Center for Humans and Nature’s *City Creatures Blog* are familiar with her humanities and nature reflections. Recent poems appear in *Comstock Review* and *Green Linden Press*. 
Polar bear politics is a bitterly contested fact of life in the extreme north. Further south, it also divides opinion as a symbol of global warming angst or apathy, a creature thought of as either the ultimate killer or the ultimate environmental victim. One clear thing in the controversy is that the future for the bear looks bleak. A study published last year in *Arctic Science* of Canada’s most southerly population of polar bears found that the warming climate and decline in sea ice has reduced the hunting time available to them by thirty days, leading to a decrease in body weight and condition.\(^1\) Another study estimates a decline of 30 percent in the next thirty years.\(^2\) All of this raises a pertinent question: what purpose does a cultural history of a vanishing animal serve?

Michael Engelhard’s *Ice Bear* doesn’t attempt to answer that but offers a stirring riposte to all that will be lost if the polar bear becomes extinct. The cultural history of the polar bear is also the history of polar exploration and exploitation, which includes the history of the indigenous cultures and their knowledge and appreciation of the subtleties of a creature, lost on Westerners. Resting alongside the hunters and explorers is an astute analysis of the polar bear as marketing opportunity and sexual metaphor, as well as its troubling history of appearing as a performer in circus acts. In its mere 288 pages, *Ice Bear* travels widely across intellectual terrain.

The book begins and ends with experience. Engelhard starts with an account of his own surprise first experience with a polar bear while working as a wilderness guide in Alaska. He and his group “agreed it had been a highlight of their outdoor lives.” It is an early high point in the prose, encapsulating the thrill and awe of the animal in controlled, precise writing. It segues seamlessly into the appeal of the bear. The final chapter covers the trickier appeal: the movement from hunting to eco-tourism in the far north, and the lure of the trophy, whether that is a taxidermy skin or a digital photograph. His analysis is thorough: literary, philosophical, ecological, and economic in its considerations. His prose style is clear and eloquent, able at marshalling all of these different strands without being fussy, dense, or reliant on cliché. The use of the word “Icon” in the subtitle is jarringly lazy but one of very few such instances in the prose.

Engelhard uses solid literary underpinnings to help him navigate this ground: Barry Lopez, Aldo Leopold, and John Berger all embellish the narrative and sharpen the argument. It is an Ellen Meloy quotation, used early on, that really illuminates the book: “Each time I look into the eye of an animal, one as ‘wild’ as I can find in its own element…I find myself staring into a mirror of my own imagination.” For *Ice Bear* is also a book about the human imagination. Fear surfaces frequently in early and modern encounters, something Engelhard puts down to “our decreased contact with the animal on its home ground...We simply have lost the skills for combating large predators, which we now face almost exclusively on-screen or at zoos.”

Imagination replaces experience. The juxtaposition of both is another strength of the book: the polar bear in the Danish royal coat of arms raises its right paw in the heraldic tradition, whereas in Greenland’s coat of arms the polar bear raises its left, in deference to the indigenous belief that polar bears are left-handed. I wondered if, in the light of movements for Greenlandic independence, there is a potential political significance to this? Instead, Engelhard drily informs the reader that no scientific evidence exists for handedness in any bear.

Between the periods of fear in the imagination—and almost concurrent to the rise of polar bear per-
forming acts in zoos—was the bear as sexual metaphor. Nature as a symbol of male potency is an over-worn trope, but perhaps rarely have bears been so integrated into a time and period as the polar bear was in the early twentieth century. In Engelhard’s chapter on this subject he guides us sensitively around the dubious boundary between titillation and bestiality. More innocently he balances out a discussion of pin-ups posing on polar bear rugs with a few instances in folklore of the polar bear as a feminist agent—including one who saved a woman from an abusive husband.

One of the most interesting passages in the book involves Knut, Berlin Zoo’s famous polar bear cub that “illuminates our troubled and troubling relations with nature.” Knut was born in captivity and raised in the public eye; his extraordinary popularity with the German public enabled an industry of Knut memorabilia to spring up alongside his image being co-opted into environmental awareness campaigns. In Engelhard’s phrase, “this bear out of its element had been promoted to eco-ambassador, representative of an endangered place.” Yet while this most post-modern of bears had been foisted into a role of money-spinning activist, he was not, it is argued, the most successful at it. Public interest was in Knut the bear, not in the international year of the polar bear. One of the strengths of Engelhard’s writing is not shying away from connecting the relevance of an individual bear with our current ecological malaise.

It is the contemporary relevance of the subject that elevates Ice Bear above the usual cultural history narratives. Although it is undoubtedly a first-class reference work and a fascinating read, it is also a testament to what will be lost if we can’t kick the carbon habit. As it makes clear, dire facts and warnings haven’t worked. The polar bear as symbol for the climate crisis and melting polar ice hasn’t worked—through fatigue or celebrity. Ice Bear offers something different: a broader and deeper way of thinking about polar bears, and thus, the arctic. And if that doesn’t work—if the

ice keeps melting—I can’t think of a finer monument to the polar bear than this book.

Stephen Rutt is an assistant editor for zoomorphic.net and his writing has appeared in their Driftfish anthology, and EarthLines magazine. He has an MA degree in Literature and the Environment from the University of Essex, and can most often be found outside looking for birds and butterflies.

NOTES
AT A LOSS

By Catherine Young

There is no word for this waking wonder of day that never ends, even in dark where the creek lets out as endless line its liquid canon

a song that goes on through the facieses whether rock or not.

If we take down these hills, crush and slam frac sand deep against shale there is no word to tell how these lands shone with corn, with bone of mastodon or crystalline stone, and once rolled as waves in ocean.

When I wake I have no word for the shifting soil singing beneath the soles of my feet – even Thanks seems so fleet.

I have only the words spoken before sunrise – before migizi has flown:

Good Morning.

Catherine Young is a writer and organic farmer living in Wisconsin’s Driftless Area, a bioregion under threat from frac sand mining. Trained in geography, environmental studies, and education, she has worked as a National Park Ranger and as an educator. She is fascinated by perception of landscape and how it shapes our movements in the world. Podcasts of Catherine’s writing can be found at https://wdrt.org/catherine-young/.

Author’s note: Migizi is the Ojibwemowin word for bald eagle. Migizi flies at dawn to see if humans remember to greet the day so that the world may continue.
CHN BOOKSHELF

A regular feature calling attention to important books and articles that CHN staff, board, and collaborating scholars are reading and recommend. Quot libros, quam breve tempus.


THE RESTORATIVE BARRETO POINT PARK: WATERS, GREENERY, AND RECREATION

Tucked away beside an industrial area of Hunts Point in the South Bronx, Barretto Point Park, which officially opened in 2006, still dazzles some who helped to transform the six acres into a place of a beauty, peace, and recreation. “It is a gem!” exclaims urban planner Ann Buttenwieser, who was the driving force behind the park’s famous “Floating Pool Lady,” the 80 by 260 foot barge-swimming pool that is open during the summer. “What is nice is the combination—you’ve got the fishing pier, you’ve got the floating pool, and you’ve got the park,” says Buttenwieser. She recalls that in 2014 she “got notice from the parks department that we had more users [that] summer than any other intermediate pools in the Bronx.”

That same wonder is expressed by Paul Lipson, the urban consultant, planner, and Bronx activist, who was a leading advocate for a park at Hunts Point. “If you are interested in design, if you are interested in architecture, if you are interested in horticulture, nature, birds—those are harbor herons nests there—fishing, crabbing, you name it, it happens here,” says Lipson, while strolling through Barretto Point Park on a sunny Wednesday the day before school resumes.

While the area was frequented before the park was built, it was not safe and family-friendly. Rachelle Fernandez, the fiscal officer of THE POINT, the Hunts Point community development organization that campaigned for Barretto Point Park, lives and grew up in the neighborhood, and she explains that while Hunts Point is a peninsula, due to “the overgrowth, empty lots, and unsafe and unsanitary conditions,” the waterfront could not be enjoyed by the neighborhood. “The need was to have safer, green space by the waterfront,” Fernandez says.

While a fertilizer manufacturer that fouled the air was shut down because of park users’ protestations, there is plenty of industry still around—and that is part of the allure of Barretto Point Park. According to Lipson, industrial areas that have green parks are usually transitioning to solidly residential neighborhoods. “This is not in transition,” says Lipson. “This is really long-term industrial land—you know, the zoning is M2 and M3; it is heavy industry, it is warehousing it is distribution, so it is very, very unusual.”

Buttenwieser agrees and feels that the Floating Pool Lady’s linkage to Barretto Point Park “is perfect.” She says that when she organized a foundation to build a floating urban pool, her charter “actually said it was to go to recreationally underserved communities.” Buttenwieser points out that while the East River and Hudson restored waterfronts are very nice, industry has packed up and gone. “But here it is, this last community where I have seen kids in their flip-
flops walking past...fish processing plants, I mean, to get to this pool,” says Buttenwieser. “And that is fabulous for me...this combination.”

The landscaping of Barretto Point Park is also unique—“softscape” as Lipson describes it—and features the Tiffany Street Pier; the moored Floating Pool Lady; paddleball, volley ball, and other sporting stops; native species plantings; a little sandy redoubt on the water; a rolling expanse of green lawn; and an open granite and grass amphitheater, with the park opening up to a view of the waterway and North and South Brother Islands with the Manhattan Skyline behind them. Placards explain that the two islands have a lot of history and nature to them. For example, in June 1904 the General Slocum tour boat grounded in flames at North Brother Island. The accident caused over one thousand deaths. South Brother Island, now a wildlife refuge, was once owned by New York Yankees owner Jacob Ruppert, Jr., who acquired Babe Ruth for the team. As the story—or fable—goes, Ruth would visit South Brother Island to practice his swing, hitting baseballs into the East River.

New York City Park chief landscape architect Ricardo Hinkle led the design and construction of the park, which involved many specialists and much community input. At this former brownfield site, once known to the Weckguasgeek people as Quinannahung or “long, high place,” the design recreated a rolling landscape. The overall effect is to bring people to the water. “Riccardo designed this with a ‘viewshed’ in mind,” says Lipson, “and the viewshed isn’t just about the Manhattan skyline—it could have been, but it does perfectly frame the Islands, too.”

Buttenwieser also developed the Floating Pool Lady to evoke history: in the late nineteenth and early twentieth century barges were used for public bathing for tenement residents, but they evolved also into swimming centers, with swimming lessons offered. In the 1880s there were fifteen barges in operation in the 1880s. “As far as a part of New York City life, they were absolutely crucial because they were placed in the tenement house districts, so you had the lower east side, the south Bronx, you had Hell’s Kitchen,...places where the people living in the tenements had no running water and no bathing facilities,” Buttenwieser explains. But young people especially took to the fun and recreation the barges offered she adds. In 1935 Robert Moses replaced the remaining barges with in-ground pools.

Greenery and waters all about—this makes Barretto Point special. “Something about water, it is so therapeutic.” Fernandez reflects. “And to be able to access it and enjoy it from different spots in the city, I think, is real important just for general well-being and good health and good mental state of mind.”
We usually think of cities as the domain of humans—but we are just one of thousands of species that call the urban landscape home. *City Creatures* introduces readers to an astonishing diversity of urban wildlife with a unique and accessible mix of essays, poetry, paintings, and photographs. More than eighty writers and artists contributed insightful narratives, numinous poetry, and full-color art. Together their stories will help readers see the city—and the creatures who share it with us—in an entirely new light.

“*City Creatures* exuberantly spans subjects from the spiritual benefits and moral issues around keeping chickens in the backyard to the unsung contributions of soil mites. We learn about orchid sex and the resurrection of frozen frogs. A scientist gives us a glimpse into the secret lives of urban coyotes. There’s a step-by-step description of taxidermy. We are treated to charming accounts of meetings with owls, parrots, skunks, snakes and other animal neighbors, and a haunting glimpse of herons on the concrete-lined banks of a polluted stream. The book is about the wildlife of Chicago, but the subjects extend well beyond.”

—Julie Feinstein, author of *Field Guide to Urban Wildlife*

“Nature in Chicago is everywhere and for everyone. Read this book for its symphony of voices.”

—Bernd Heinrich, author of *The Homing Instinct* and *Life Everlasting*