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Roundtable on
Holmes Rolston, III

***A New Environmental
Ethics: Life on Earth in
the Next Millennium***

Routledge, 2012

Introduction to the Roundtable: Holmes Rolston III's *A New Environmental Ethics: The Next Millennium for Life on Earth*

CHRISTIAN DIEHM

University of Wisconsin, Stevens Point

In the 1970s, when the contemporary environmental movement was still in its infancy, Holmes Rolston, III began publishing philosophical essays in environmental ethics, and it is no exaggeration to say that his early efforts contributed to establishing this subject as a serious academic field, one in which he has played a leading role ever since. Indeed, over the past five decades Rolston has not only developed and defended one of the most comprehensive and recognizable positions in eco-philosophy, but he has also used it to address some of the most difficult and challenging issues that environmentalism in the modern era has had to face. It should come as no surprise, then, that the appearance earlier this year of his *A New Environmental Ethics*¹ represents both the culmination of a professional lifetime of dedication to the discipline that he helped to create, as well as a guidepost out ahead of those of us who have only recently ventured into the territory that he began to explore so many years ago.

Readers familiar with Rolston's work will quickly recognize that *A New Environmental Ethics* is at one and the same time both a familiar and a novel text. On the one hand, it straightforwardly presents most of Rolston's now well-known positions in environmental ethics, positions on things such as the intrinsic value of organisms and the ethical priority of ecological wholes that have changed fairly little over the course of his writing. On the other hand, this book is an entry into an ever-changing academic field in which new questions are continually arising, and thus it incorporates Rolston's most up-to-date reflections on subjects such as the current fascination with the notion of "sustainability," the looming threat of global warming, and the ongoing academic debates about the social construction of nature.

One thing that the contributors to this roundtable discussion have in common – Marion Hourdequin (Colorado College), Nicole Klenk (University of New Brunswick), and myself (University of Wisconsin-Stevens Point) – is that we are all from a generation of environmental thinkers that has always been able to look to the pioneering work that Rolston did long before we came on the scene. That we are still so thoroughly engaged with his texts, and find our own thinking so thoroughly illuminated by his, is testimony to his intellectual rigor, the broadness of his intellectual scope, and the importance of the issues that his work has consistently addressed. The pieces collected here stand, no doubt, as just one of the first of many thoughtful conversations that *A New Environmental Ethics* will inspire, and they are offered in the same spirit that one finds in Rolston's own works: that of passionate, reflective and critical engagement with the question of how best to live a meaningful human life on a valuable planet Earth.

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Comments on *A New Environmental Ethics: The Next Millennium for Life on Earth*

MARION HOURDEQUIN
Colorado College

As a subfield of philosophy, environmental ethics has been marginalized, labeled as a branch of “applied ethics” offering nothing profoundly new or deep. Environmental philosophers, from the perspective of the discipline more generally, are often thought to be mired in messy contingency, too burdened by empirical details to identify fundamental truths about the world. On the other hand, when environmental philosophers speak to a broad audience about intrinsic value or non-anthropocentrism, they are frequently seen as utopian and disconnected from real-world problems. Environmental philosophy thus seems caught in the middle: too applied to conform to the taste of traditional theoretical philosophers and too abstract to connect with policy and practical environmental issues.

Wanting to make a difference, many environmental philosophers have in recent decades turned away from theoretical questions of intrinsic value and associated critiques of anthropocentrism to more pragmatic approaches to particular environmental issues and questions. Pragmatists like Bryan Norton (1991) offer the “convergence hypothesis,” where anthropocentrists and non-anthropocentrists come to agree in the policy arena: disagreements at the level of theory need not obstruct consensus at the level of action. The sort of convergence Norton describes, however, is not merely the natural result of various disparate ethical perspectives coming together in the political realm. Rather, convergence requires compromise: it can happen only if some are willing to give up or at least temporarily relinquish their commitment to certain values they hold. Environmental philosophers who want to be taken seriously in the realm of climate ethics, for example, tend to focus on injustice: not injustice to other species, but to humans who will be unfairly harmed as a result of past, current, and future practices of burning fossil fuels and emitting excessive greenhouse gases. Yet for a non-anthropocentrist, global climate change puts at stake not only justice among human beings, but the fate of species, ecosystems, and evolutionary processes on earth more broadly. Similarly, those who believe that planetary-scale geoengineering is fundamentally hubristic and overreaching can only converge with non-anthropocentrists by working to hammer out a “just” governance regime for a kind of planetary management that violates some of their deepest convictions.

In *A New Environmental Ethics* (2012), Holmes Rolston, III shows that environmental ethics must be at once theoretical and practical, ambitious in the breadth and depth of its critique of traditional ways of thinking yet grounded and connected to practical questions about animal welfare, wilderness protection, ecological restoration, and climate change. Unlike Norton, Rolston resists convergence and the compromise that accompanies it. There *is* a substantial difference between anthropocentrism and non-anthropocentrism, he argues, championing the

latter. Rolston unapologetically defends the value of non-human animals, as well as plants and other non-sentient life forms, species, ecosystems, and the earth as a whole. He is frank about his method and about the predicament of environmental philosophy more generally: in the effort to generate a paradigm shift – as is needed – one cannot proceed from pre-existing assumptions. We ought not, therefore, expect a straightforward, logical argument for the “environmental turn” (Rolston 2012, 25). He notes, “Often in the real world argument is not so much like the links of a chain as like the legs of a table, where support comes from multiple considerations,” which themselves are the product of “interpretive seeing,” value-laden observations and interactions with the natural world. Rolston goes on to explain:

In evaluating natural and world history, and our part in it, one must join earlier and later significances in ways more qualitative than quantitative, more dramatic than linear. One needs a sense of scenic scope. (Rolston 2012, 26)

Rolston attempts to facilitate this sense of scenic scope by laying out in detail, and with rich use of cases and examples, the relevant considerations. Drawing on ecology and environmental science, law, policy, and economics, Rolston shows us the possibility of valuing nature much more broadly and thoroughly than we do today. This is a worldly environmental ethics, very much grounded in observations of nature and its workings along with an astute critique of where our own beliefs and institutions fail to acknowledge sources of value outside of ourselves. The book does not purport to offer an argument from first principles, and, true to its word, it instead *narrates* the world so as to reveal to us the possibility of a coherent alternative to our entrenched and narrow modes of valuing and the anthropocentric institutions that instantiate and further reinforce them.

Throughout the book, Rolston engages and rejects many fashionable ways of thinking about the environment. Critiques of wilderness, the idea of restoration as “faking nature,” adaptive management, and environmental pragmatism all come in for critique. For example, in response to the idea of “adaptive management,” an ecologically informed and experimental approach to ecosystem management, Rolston offers the following observation:

No one wishes to oppose intelligent management. Everyone wants to be ‘adaptive’ [...] But ought humans to place themselves at the center, claiming management of the whole in their human self-interest? [...] Perhaps what is as much to be managed is the human earth-eating, managerial mentality that has caused the environmental crisis in the first place. (Rolston 2012, 45)

“Enlightened” and politically-correct environmentalism earn no special exemption from Rolston’s critical gaze. Adaptive management may be better than what preceded it, but that doesn’t ensure its adequacy. Similarly, Rolston resists the contemporary move to collapse nature and culture, and on that basis to question the coherence of the wilderness idea and ideal. While

acknowledging that many North American landscapes were historically shaped by human beings and, in that sense, were not pristine prior to European colonization, he insists that we acknowledge differences of degree between the kinds of manipulations that characterized Native American use of the land and those typical of contemporary civilization. On this basis, we can distinguish wild lands from those dominated by human beings. Relatedly, Rolston finds confused the conceptual critique of wilderness, which appeals to the idea that wilderness is merely a social construct erected by Westerners in the grip of a romantic idealization. As he notes,

[I]t cannot count against ‘wilderness’ having a successful reference that some earlier peoples did not have the word. Yes, ‘wilderness’ is, in one sense, a twentieth-century construct, as also is ‘the Krebs cycle,’ and ‘DNA,’ and the ‘Permian/Cretaceous extinction’ [...] Nevertheless, these constructs of the mind enable us to detect what is not in the human mind. (Rolston 2012, 177)

On this view, there really are some parts of the natural world that are wild, and some that are significantly less so, and this distinction matters. Not all the world needs to be wild, but wild nature is of distinct value, and something that should be protected and preserved.

David Schmitz (on the book’s back cover) describes *A New Environmental Ethics* as “old and new” at the same time – and the description is apt. This book is up-to-date with current examples and engagement with contemporary interlocutors, yet it also reflects a point of view that Rolston has been developing over many decades. It is thoughtful and considerate of other perspectives, but also direct and uncompromising. Rolston is not just laying out possibilities for the reader to consider; he is making an argument, and neither the popularity nor the power of his opponents deters him. Even the White House Christmas tree comes in for criticism, as “teaching the wrong thing about trees” (Rolston 2012, 101). Rather than chop down a large tree “in the prime of its life,” Rolston suggests that the President designate a standing live tree as the national Christmas tree each year (Rolston 2012, 101). Such trees could be marked with plaques, and people could go to visit these national trees, still standing, years later.

This last example provides just one illustration of Rolston’s engagement with environmental ethics at many levels. He is concerned with theoretical questions of what has value, but also with the ways in which our practices reflect various value presuppositions. Rolston is an engaged and attentive social critic. For example, he distinguishes between environmental economics and ecological economics, both of which attempt to ameliorate the inability of classical economics to account adequately for the environment, and he identifies *ecological* economics as the approach worth pursuing. Environmental economics is simply “classical economics applied to natural systems” (Rolston 2012, 168). Ecological economics, in contrast, seriously challenges the basic presuppositions of classical economics, such as commitments to profit maximization and endless growth.

Rolston’s book as a whole covers an expansive territory, but the argument is set up to move the reader sequentially from familiar realms of value (humans and sentient animals) to the less

familiar (plants, species, ecosystems, and the earth). At each stage, Rolston shows us that we need to recognize that value takes diverse forms – there is no single characteristic, whether rationality, sentience, or being alive, that all valuable things share in common. In the case of plants and other non-sentient beings, we find value in their teleological organization; they are entities that “defend value” (Rolston 2012, 100). In species, we find “dynamic life forms preserved in historical lines that persist genetically over millions of years” (Rolston 2012, 129). To kill a species is to “[shut] down the generative process, a kind of superkilling. [T]o superkill a particular species is to shut down a story of many millennia, and leave no future possibilities” (Rolston 2012, 135).

It is in this latter half of the book, where Rolston clearly strikes out on his own, defending the value of species, ecosystems, and the earth, that the arguments are most interesting. The argument as a whole recapitulates ideas Rolston has been defending for many years, but the development of these arguments and the treatment of particular issues and examples in the context of the overall argument is often provocative and new. I want to discuss just two examples to illustrate the many-stranded nature of the book as a whole: the discussion of ecological restoration and the theme of character and virtue that runs throughout.

While one might think that environmental philosophers would embrace ecological restoration as an exemplar of a healthy and caring relationship between humans and the land, the relationship between the two fields has been complex. Aldo Leopold, who holds a place of high esteem among environmental ethicists, was of course not only the author of “The Land Ethic,” but also a pioneering figure in ecological restoration. His work in this field, however, has been little discussed and written about by environmental philosophers. Because the possibility of restoration depends on the existence of ecological damage, some have worried that restoration has an insidious side. Perhaps the most well-known and widely cited essay on restoration by an environmental philosopher is Robert Elliot’s “Faking Nature” (1982), which views restoration with suspicion. This essay, later expanded into a book, argues that restoration fakes nature by passing off human-created nature as authentic or real. Restoration obscures the disruption of natural processes that occurred at a site, failing to reveal the way in which a disturbed site’s genealogy diverges from that of an undisturbed landscape. Elliot highlights the free play of natural processes as a source of natural value, and argues that restored sites lack that value: they are inevitably diminished in relation to their undisturbed counterparts. What’s more, restored sites are deceptive, because they trick us into thinking they are natural, when in fact they are not. One of Elliot’s central worries is that restoration will be used as an excuse for degradation: if we mistakenly believe that restored sites are just as good as natural landscapes prior to disturbance, we may be less wary of mining, logging, and other activities, which in fact destroy natural value, even if followed by restoration.

Rolston, while sharing the concern that we not use restoration as an excuse to engage in ecologically destructive behavior, contests the claim that restored nature is inevitably inauthentic and unnatural. “The naturalness returns,” argues Rolston (Rolston 2012, 184). If we put the pieces back, nature will eventually take over, and a site can be transformed from an artifact into a

place where natural processes reign. For Rolston, the term “restoration” is misleading insofar as it suggests that we are putting things back or resetting the clock – restoration is “forward looking,” it is about “rehabilitation for the future” (Rolston 2012, 185). So while he acknowledges that a disturbed site has experienced a disruption or discontinuity that cannot be undone, Rolston wants us to recognize that there are other aspects of natural value that can return: a restored site can again be natural and wild, in the sense that natural processes can return as can significant freedom from human control.

This discussion raises the question of how we should consider other forms of restoration, particularly those that do not fully restore naturalness or wildness. Rolston does recognize that there are kinds and degrees of restoration (Rolston 2012, 183) and that sometimes we will restore to make restitution for past damage, and other times for pragmatic reasons, to benefit people. This seems consistent with a contextual approach to restoration (Hourdequin and Havlick 2011) and with the recognition of cultural values associated with particular landscapes and the possibility of restoration that integrates the cultural and the natural. This approach allows that “historical fidelity” – understood narrowly as loyalty to pre-disturbance ecological conditions – is not the only relevant value in restoration. While historical fidelity understood in this way may be an appropriate and central guiding value in certain places such as large natural areas, elsewhere other social and cultural values legitimately come into play.

The field of ecological restoration has developed significant divisions over the role of history, with some insisting that restoration should always strive to replicate the structure, composition, and function of pre-disturbance reference ecosystems, and others arguing for “forward-looking restoration” (Choi 2004, 2007) that takes little account of the past, instead focusing on developing new ecosystems that will function effectively under changing conditions and that respond to human needs and values. Traditionalists worry that this latter vision will fail to value what came before and collapse into a hubristic and promethean remaking of the natural world. This worry is legitimate, but one can acknowledge diverse possibilities and roles for restoration without accepting a vision of restoration as a mere servant of narrow human interests. Rolston, in recognizing the dynamism and diversity of nature and value, seems to allow space for many forms of restoration – some restorations might be large scale and guided by the goals of bringing back naturalness and wildness; others might be smaller and serve primarily to heal our relationship with the natural world by encouraging us to engage positively rather than negatively with nature (cf. Jordan 2003; Light 2002); still other restorations might serve as exemplars of how the human and the natural can productively blend in spaces that people regularly use and inhabit. Agroecology projects, ranchland restoration, and the development of urban natural areas might be instances of these latter kinds of restoration.

Rolston’s willingness to acknowledge various forms of restoration reflects a more general acknowledgement of the complexity of our relationship with nature and the values we find there. We face, inevitably, difficult choices as we navigate relationships with other living beings, and with entities at higher levels of organization: species, ecosystems, and the planet. The poignancy of these relationships is underscored throughout the book, as Rolston guides our thinking through

decisions in which multiple values are at stake. For example, he raises numerous questions about whether and when we ought to intervene to alleviate pain in the natural world. Should we rescue a grizzly bear and her cubs stranded on an island in the middle of Yellowstone Lake (Rolston 2012, 134–135)? Should we rescue starving bighorn sheep (Rolston 2012, 71)? Drowning bison (Rolston 2012, 71)? These are not easy questions. Pain is often a bad thing that we should seek to reduce, but again, we need to consider context. Pain and suffering are part of the natural world and attempting to eliminate them entirely would not only be Sisyphean but unwise, on Rolston's view. Though predation involves pain, predation is essential to ecological systems. There is a tragic element to life, but we can see also how tragedy is entwined with larger processes and cycles which themselves have significant value (Rolston 2012, 74).

The emphasis on context, complexity, and the diversity of values pervades Rolston's work, and the recognition of this complexity seems to call for the cultivation of particular traits of character in us, traits that enable us to grapple with complexity and motivate us to respond in appropriate ways. Rolston is clear that he is not a virtue ethicist if what virtue ethics entails is the rejection of rules as important guides for behavior. Rules, argues Rolston "channel caring and discipline virtuous intentions," and are crucial in moving people along the path toward virtue and in regulating individual and institutional behavior in the public realm (Rolston 2012, 136). Despite these caveats, Rolston does offer us a picture of the kind of people we must be if we are to embrace an Earth ethics. Like Aldo Leopold, he encourages us not only to be "good citizens" in the traditional sense, but ecological citizens (Rolston 2012, 221). We must learn how to reside on Earth and to do so with "respect, reverence, and care" (Rolston 2012, 222). We need hope (Rolston 2012, 216) and solidarity on a global scale (Rolston 2012, 222). We need to know our home place – not just the highways and shopping malls, but the plants, the animals, the geology, the climate, and the interconnections among these things and their relation to us. "Three-dimensional persons" are those that appreciate the urban, the rural, and the wild: they understand how human civilization is nested within broader ecological contexts. As Gary Snyder explains in "The Place, the Region, and the Commons," living in place involves having a sense of home centered around the hearth – or in the town or city where one resides – but extending outward from there to farms and ranches to "woodlot, forest, desert or mountain" (Snyder 1990, 28). On this view, the concerns that occupy Rolston in *A New Environmental Ethics* are not only about values or character; they are existential:

But how could we *be* were it not for this planet that provided our very shape? Two conditions – gravity and a livable temperature range between freezing and boiling – have given us fluids and flesh. The trees we climb and the ground we walk on have given us five fingers and toes [...] The land gave us a stride, and the lake a dive. The amazement gave us our kind of mind. We should be thankful for that, and take nature's stricter lessons with some grace. (Snyder 1990, 29)

Or as Rolston puts it, “Earth is not something we outgrow or rebuild and manage to our liking, it is the ground of our being” (Rolston 2012, 222).

In *A New Environmental Ethics*, Rolston gives us a map to guide us in revaluing nature and reconfiguring our relationship with the natural world. In many places, it is a sketch map, awaiting new ways of thinking, new values, and new institutions to populate and fill it out in a way that enables rather than truncates life on Earth. More will need to be said to convince us that we should abandon our self-centeredness and follow Rolston’s lead. Our cynicism is so deep that when social scientists tell us that money doesn’t buy happiness once we’ve met our basic needs (Kesebir and Diener, 2008), but that relationships, community engagement, and meaningful work do, we are skeptical. Isn’t this just what the 1% wants us to think? Is this not a ploy to keep us in our place? To truly compel change, others will need to take the map as a guide and begin to fill out, on the ground, the landscape envisioned there.

There are times when one might also wish that Rolston offered more in the way of traditional arguments for his position, the comforting deductions from premises to conclusions that philosophers so deeply prize. Instead we find Rolston prodding us to see the world differently, gently insisting that in effect, our value schemes have got it all (or almost all) wrong. How presumptuous, one might respond: Where are the arguments? But then we are provoked to ask, with respect to our anthropocentrism, our conviction that the world is here for us to manage according to our will, our commitment to infinite growth: Where are the arguments, and can they withstand critical scrutiny?

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Interpretive Skills for Environmental Ethics

NICOLE KLENK

University of New Brunswick

Introduction

Storytelling is central to the formation and reproduction of identities, cultures, and traditions (Ochs and Capps 1996; Bruchac 2003). Whether from a religious or secular perspective, the stories we are told as infants and those we tell ourselves as adults are a means of contextualizing our origin, our place, and our purpose while envisioning our individual and collective futures (Nelson 2003; Fagundes and Blayer 2007). Narratives also serve the important role of moral education: how to live a good life, how to be a good person, and how to engage in moral reasoning. For example, in the Christian tradition, biblical parables such as “the Good Samaritan” and “the Prodigal Son” convey important moral lessons and principles. A non-religious and remarkable example is the Western Apache’s place-names, which mark geographical locations and past events as well as provide moral guidance (Basso 1996). That is, geographic features remind the Western Apache of “the moral teachings of their history” by recalling to mind events that occurred there in important moral narratives. The anthropologist Keith Basso describes these place-linked historical tales as having “the capacity to thrust socially delinquent persons into periods of intense critical self-examination from which (ideally, at least) they emerge chastened, repentant, and determined to ‘live right’” (Basso 1996, 60).

Such narratives can be strongly compelling because they make sense of lived experience: they integrate facts and values in a way that enable us to find and make our place in the world. The narratives that structure identities, cultures, and traditions are not simply given, but constantly re-enacted and reinterpreted, thus changing in relation to life events and historical contexts. The continual interpretation of these narratives can radically change received views, and skillful storytelling can create new cultural and moral identities, and structure different modes of moral reasoning and behavior. Indeed, gifted storytellers can create new stories out of new facts and values, giving us a different sense of time, place, and purpose and inviting us to integrate our life experience into its unfolding storyline. The environmental ethicist Holmes Rolston is a master storyteller in this sense.

Rolston’s *Environmental Ethics* (1988) integrates ecological knowledge (e.g., Darwinian evolution, ecosystem science) with particular values (e.g., “natural value”) to provide a universal ethics to guide human behavior towards nature in all its diversity. His narrative is evident in his interpretation of the evolution of biodiversity as Earth’s storied achievement. In Rolston’s own words: “Nature is a fountain of life, and the whole fountain – not just the life that issues from it – is of value. Nature is genesis, Genesis” (Rolston 1988, 197). A pioneer in the field of environmental ethics, Rolston’s evolutionary tale not only provides a sense of our species’ past

and future trajectory on Earth, it provides a scientific context for the development of a new kind of ethics within moral philosophy, one that provides guidance to humanity for acting in a way that “fits” in nature.

In his most recent work, *A New Environmental Ethics: The Next Millennium for Life on Earth* (2012), he remains consistent with his prior elaboration of “natural value.” However, Rolston does more than just present a philosophical argument for a new environmental ethics; he packs his narrative with an overwhelming number of facts, applying his environmental ethics to a vast array of current environmental policy issues, demonstrating to the reader how to apply his environmental ethics to deal with the complexity of environmental decision-making in our time. What is striking in this volume is how Rolston uses his narrative of “natural value” to rhetorically *reveal* to readers their proper identity, place and purpose:

I am seeking, in this book you have in hand, to put you in your place. You will be finding out who you are, where you are and what you ought to do. You will be seeking to learn what you most need to know about nature: how to value it. (Rolston 2012, Preface)

Convincing people to adopt a new set of ethical values is a difficult thing to do. One way to make a new environmental ethics compelling is to make it seem necessary and legitimate by grounding it in science. But the choice of which ecological narrative to use to structure a new environmental ethics remains an outstanding issue. For example, one could use a declensionist ecological narrative which interprets natural history as the deterioration of nature due to humanity’s destructive activities, drawing the moral lessons from the “fall of humanity” out of its Golden Age of the past, when humans were “in harmony” with nature. Or, one could use a progressivist ecological narrative in which the evolution of life on Earth is interpreted as the emergence of more advanced lifeforms, of which humanity is the apex. In this storyline, humans are interpreted as “rational animals” that have a special responsibility towards nature due to their ability to reason. Of course, not all interpretations of the evolution of life on Earth are scientifically accepted; nevertheless, there is a plurality of scientific interpretations of nature that are deemed scientifically plausible and could be used to construct a moral ecological narrative.

The fact that there is a plurality of actual, plausible, and useful ecological narratives has important implications for Rolston’s project and for environmental ethics more generally. In this paper I make a number of observations which are part of a larger argument on interpretation, science, and environmental ethics I have made elsewhere (Klenk 2008). I identify two plausible evolutionary narratives that could structure an environmental ethics differently than the evolutionary narrative sketched by Rolston. I then discuss the implications of this pluralism for environmental ethics, in particular, the need for interpretive skills in ethical environmental reasoning. In the first section I begin by providing a summary of Holmes Rolston’s moral ecological narrative.

The Tree of Life Story

Rolston's evolutionary narrative evokes the metaphor of the tree of life: its foundational trunk arising out of Earth's natural history, shooting forth like the arrow of time and branching out in the diversity of life unfolding, expanding, and flourishing. The tree of life and its scientific representation is arguably the root metaphor of Rolston's narrative of evolution and "natural value." Rolston interprets the evolution of different elements of diversity (e.g., humans, organisms, species, ecosystems) as the natural history of "intrinsic value" in its diverse manifestations. Rolston emphasizes the "pro-life" direction of "evolution's arrow," that is the emergence of an increasing number of species over evolutionary time (Rolston 1988, 197). In Rolston's environmental ethics, moral concern should be focused on evolution's "unit of development and survival," referring to species, but also to their environment:

In a holistic ethic, this ecosystemic level in which all organisms are embedded also counts morally – in some respects more than any of the component organisms, because the systemic processes have generated, continue to support, and integrate tens of thousands of member organisms. The appropriate unit of moral concern is the fundamental unit of development and survival. That is the species line. But a species is what it is where it is, encircled by an ecology. (Rolston 2003, 524)

Morally good behavior consistent with this moral ecological narrative requires "following nature." In Rolston's words:

What I call larger moral virtue, excellence of character comes in large part, although by no means in the whole, from this natural attunement; and here I find a natural ethic in the somewhat old-fashioned sense of a way of life – a life style that should "follow nature," that is, be properly sensitive to its flow through us and its bearing on our habits of life. A very significant portion of the meaning of life consists in our finding, expressing, and endorsing its naturalness. Otherwise, life lacks propriety. (Rolston 1979, 26).

In his most recent book, Rolston enhances his moral ecological narrative by contextualizing it within a whole range of current social-ecological policy issues (sustainable development, environmental justice, climate change, pollution, and urban planning, among others). Rolston's masterful storytelling is exhibited in the comprehensive and systematic way he integrates current and emerging events (i.e., what he call environmental crises) into his narrative, building upon readers' current historical context to provide them with a sense of "who they are, what their place is, and what they ought to do."

However, there are counter-narratives to the tree of life story. I present two narratives that suggest differing roles of humans in nature and modes of ethical environmental reasoning. These

ecological narratives could structure alternative environmental ethics, which are not necessarily consistent with Rolston's environmental ethics.

The Hypersea Story

Dianna and Mark McMenamin present an explanation for both the emergence of land animals and the origin of the plant kingdom, virtually all of which lives on land (McMenamin and McMenamin 1994, 3). The authors argue that the success of life on land, in comparison to marine life, is due to the vast number of direct, physical connections through which fluid is directed, creating in effect a new sea within the sum of its tissue:

Land organisms have, by necessity, evolved together as part of a greater interconnected mass of living cells. In moving out of marine waters, complex life has taken the sea beyond the sea and folded it back inside of itself to form Hypersea. (McMenamin and McMenamin 1994, 5)

Hypersea provides life with the same sustenance that ocean currents do; however, in Hypersea, organisms control the flow of nutrients, unlike in the sea where marine organisms must actively search for opportunities to access essential nutrients.

Hypersea is the unifying story of life on Earth, directing nutrients and speeding up the evolution of biological diversity. This is made possible by cellular system of nutrient transport and distribution, facilitating more complex trophic webs of predation and parasitism, which in turn facilitates the evolution of more biological diversity. In their own words:

Hypersea unifies what might at first hand appear to be opposites. Plants and land animals are shown in our new view to belong to the same collective, and geologically speaking, plants and land animals ought to be considered as part of a unified whole. Cases of parasitism and disease are related by Hypersea perspective to examples of mutualistic symbioses where the hosts and symbionts both benefit by living together. Natural selection, generally considered as a force of discrimination acting on separated individuals, evokes curious happenings on the insides of organisms. (McMenamin and McMenamin 1994, 5)

How could the Hypersea narrative inform a new environmental ethics? In this unified ecological perspective, individual species and ecosystems would not be the focus of moral concern; rather, it would be the flow of fluids through interconnected cells. The focus of this new environmental ethics would be the morality of manipulating Hypersea's currents. We have spread pollutants, diseases and parasites from one reservoir of Hypersea to another (e.g., the theory that HIV was spread to humans from primates), in some cases facilitating the evolution of biodiversity and in other cases transforming Hypersea reservoirs into toxic waste sites. By interpreting the evolution

of land organisms as connected aquatic environments, and the role of humans as catalytic and mobile reservoirs of Hypersea, we would take a fluid-centered perspective on environmental ethical reasoning.

A new environmental ethics might argue that Hypersea has intrinsic value as the sustainer of life on Earth and that its intrinsic value gives rise to ethical obligations and principles to facilitate its continued flow and expansion on land. For instance, if it were applied to the ethical dilemma of Lake Vostok, the Hypersea perspective would suggest that rather than viewing humans as a threat to the largest pristine sub-glacial body of water in Antarctica, we should not hesitate to study its extremophile inhabitants to better understand their role in facilitating the evolution of life on land.¹ Moreover, in the narrative of Hypersea land organisms form a unified whole that transcends the boundaries erected between common ecological taxonomies (organisms, species, ecosystems). Interpreting land organisms as this unified whole would allow environmental ethicists to sidestep the thorny issue of how to distribute intrinsic value – do animals have more intrinsic value than plants? For Rolston, animals have a higher “intrinsic value magnitude” than plants and microorganisms (Rolston 1988, 120), but from the Hypersea perspective such a “gradient” of intrinsic value is nonsensical since in Hypersea land plants and animals are connected in radically intimate ways.

Lastly, for those concerned about global biological diversity, the McMenamins suggest focusing on unique Hypersea organisms. For example, they suggest protecting the Southeast Asian plant genus *Rafflesia* which forms the world’s largest flower (over a meter in diameter) and is an exemplary reservoir of Hypersea. In their own words:

The plant has become so specialized for its hypermarine habitat that it lacks leaves, stems or roots. The only vegetative part of the plant, directly connect to the flower, are the fine filamentous hairs that penetrate and parasitize tropical vines – vines which are themselves parasitic on other vascular plants. The host vines are not badly injured by this parasitism. Sadly, though its range includes Borneo, Sumatra, Java, and Peninsular Malaysia, *Rafflesia* is one of the rarest of vascular plant genera, and redoubled efforts to protect this flower ought to be undertaken in light of its importance for hypermarine studies. (McMenamin and McMenamin 1994, 255)

In the next section I discuss another narrative of the evolution of life on Earth, but this one takes a plant-centered perspective. Its implications for the role of humans on Earth present a striking contrast to Rolston’s moral ecological narrative.

The Emerald Planet Story

In *The Emerald Planet: How Plants Changed Earth’s History* (2007), David Beerling starts his ecological narrative by describing how cyanobacteria changed the atmosphere’s chemical constitution, starting at least 3.5 billion years ago, which had the effect of undoing their worldly

dominance. Cyanobacteria thrived in an oxygen-impooverished atmosphere, but due to their large numbers and their photosynthesis they increased the proportion of oxygen in the atmosphere to a level that rendered their habitats inhospitable – cyanobacteria had to retreat to oxygen deficient environments such as mud flats and other fetid localities (Mackenzie 1998, 194).

The main gist of *The Emerald Planet* narrative is that plants have had a massive impact on the Earth's atmosphere through photosynthesis and their acceleration of the weathering of silicate rocks, which also consume carbon dioxide. These two processes help explain the plummeting of carbon dioxide levels in the middle to late Paleozoic era, 400 to 350 million years ago:

Plants, and their fungal partners below ground, are evidently engaged in a conspiracy of silence as they gradually consume the rocks beneath our feet over the ages. Careful investigations have shown them to dissolve rocks five times faster than normal, irrespective of whether they are tropical rainforests in Hawaii or conifer forests in the Swiss Alps. Through these processes plants have been imperceptibly removing carbon dioxide from the atmosphere and regulating climate as the millennia ticked away. [...] Interestingly, plant evolution generated changes in the global environment that persisted in a legacy to modify subsequent generations. Falling carbon dioxide levels saw the evolution of leafy plants, which in turn accelerated the diversification of terrestrial animals and insects. (Beerling 2007, 33–34)

In a recent study, botanists have suggested that the impact of non-vascular plants such as mosses may have triggered the growth of ice sheets even earlier, that is in the Late Ordovician period, ending 444 million years ago (Lenton et al. 2012).

Apparently plants facilitated the evolution of non-plant life but they also precipitated an ice age, thereby putting themselves at risk of global extinction had the Earth's "thermostat" not kicked in: rock weathering slowed in the cooling climate which decreased carbon dioxide removal from the atmosphere, which in turn helped return the climate to a more hospitable range for land organisms. In a nutshell, plants have been transforming the Earth by spreading across continents and in the process threatening the extinction of countless species due to their contribution to global ice ages, but at the same time acting as catalysts in the diversification of life on land.

If we were to construct a moral ecological narrative out of *The Emerald Planet* story, how would we interpret the role of humans on Earth and its implications for environmental ethics? Beerling's narrative suggests that Earth's most successful land organisms actively change their environment, which sometimes leads to their flourishing and sometimes to the destruction of the very conditions they need to survive. Beerling's evolutionary history is replete with episodes of radical change, extremes in climate, extinctions, and bursts of species diversification all in some way connected to the activities of plants. An environmental ethics founded on this interpretation of the evolution of life on Earth could argue for the continued spread of the human species on all habitable lands and support the increased human appropriation of natural resources, since this is

precisely what other species have done in Earth's history. However, the lesson learned from *The Emerald Planet* story is that the consequences of the flourishing of the human species might lead to the destruction of the conditions necessary for human life, but may also, in time, facilitate the diversification of life on Earth.

In sum, the moral of this story is that we would not be the first nor the last living organisms on Earth to cause large-scale ecological changes and rather than view such changes as morally questionable, we should acknowledge our duty to take responsibility and care for the consequences of our actions. Furthermore, to paraphrase Bruno Latour in *It's Development, Stupid! or: How to modernize Modernization* (2008), now is not the time to stop intervening, acting, and wanting at an ever increasing scale because of the unforeseen risks and impacts of human activities on Earth's ecosystem, but to learn to follow through with our actions and care for the unwanted consequences along the way. This means coming to terms with and taking care of the myriad imbroglios in which humans, non-humans, and technology have become intimately entangled.

Hence, *The Emerald Planet* story enables us to interpret evolution as the active transformation by species of the conditions of life on Earth. Rather than valuing units of evolution (e.g., organisms/species/ecosystems) or the unifying fluid of Hypersea, a new environmental ethics could focus on convincing people that humanity is pervasively and intimately connected to non-human nature through the use of technology and that rather than reject these imbroglios, they should give rise to ethical obligations and principles that guide how to look after, or take care of, the consequences of our actions. In the context of this third moral ecological narrative, both the loss of species and ecosystems and the creation of conditions for new species or ecosystems to evolve appear to be as it should be.

Interpretive Skills for Environmental Ethics

Which of these ecological narratives should structure a new environmental ethics? The decision cannot be answered by science, since these narratives are all scientific, plausible, and useful (e.g., they can be used to generate hypotheses). With no final arbiter on this question, readers might wonder if it makes sense to use ecological narratives to structure a new environmental ethics. Given the conflicting ethical values and principles that can be drawn from these three ecological narratives, the idea of having to accept only one of them to contextualize our origin, place, purpose, and environmental ethics seems arbitrary and unnecessary. Moreover, the question of whether there *should* be a plurality of ecological narratives (i.e., that the purpose of scientists and/or ethicists is not to convince us of a single unified narrative of nature) is mute, since this plurality is a phenomenon that appears throughout our history (Glacken 1976). In other words, pluralism in ecological narratives is a fact of existence with which we must contend. Indeed, this plurality represents a fundamental challenge for constructing universal moral ecological narratives in order to change people's environmental values and behavior, not to mention their identities, cultures, and traditions.

That is not to say that using ecological narratives is not useful or appropriate in environmental ethics, but rather that it should be supplemented by the development of interpretive skills in environmental ethical reasoning. For individual environmental decision-making in everyday life as well as for complex, large-scale environmental decision-making involving multi-cultural stakeholders, there is a need to interpret facts, values, principles, actions, and their consequences in relation to a particular dilemma. The application of environmental ethics to environmental decision-making requires at least the following three interpretive skills:

- Discerning which facts (i.e., ecological and other) and values (i.e., ethical and other) are relevant to the particular individual or collective environmental decision-making dilemma;
- Interpreting relevant ethical principles for the situation at hand;
- Evaluating the results of the action given the relation between means and ends structuring the decision-making situation.

These interpretive skills should remind readers of early American pragmatism of John Dewey's *Theory of Valuation*. For Dewey the process of valuation is an inquiry: it requires considering what should be done to resolve a particular conflict of interests by using both factual information and ethical guidelines (Dewey 1939). But Dewey was not solely interested in finding better and more efficient means to achieve ends (resolution of problems), but in inquiring about the ends themselves in relation to factual conditions and values (Putnam 2002, 97).

In addition, the interpretive skills I suggest are pragmatic in the sense that they sidestep intractable problems in moral philosophy and applied ethics: which moral theory is right and how can we be sure that the application of a chosen moral theory (i.e., its associated ethical values or principles) consistently results in good and right actions? Indeed, the three interpretive skills I suggest imply that ethical values and principles do not provide self-evident rules for action, but require interpretation to be appropriately applied in particular contexts.

In summary, Holmes Rolston has done a tremendous job of constructing a grand moral ecological narrative and demonstrating how to apply his environmental ethics to contemporary environmental issues. It does not follow that in actual decision-making situations individuals would interpret his environmental ethics or the ethics of "following nature" in the same way he would (Klenk 2008). They would almost certainly have to contend with a plurality of competing environmental ethics and ecological narratives. Pluralism requires us, therefore, to acknowledge the need for and develop practical skills in interpretive ethical reasoning to learn how and when to apply relevant and compelling environmental ethics to actual environmental dilemma.

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Note

1. "Lake Vostok: Russian scientists drilling into 'alien' Antarctic lake buried for 20m years." Mail Online. *Dailymail.co.uk*. Retrieved 5 April 2012.

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Unnaturally Cruel: Rolston on Animals, Ethics, and the Factory Farm

CHRISTIAN DIEHM

University of Wisconsin, Stevens Point

In 2010, over nine billion animals were killed in the United States for human consumption. This included nearly 1 million calves, 2.5 million sheep and lambs, 34 million cattle, 110 million hogs, 242 million turkeys, and well over 8.7 billion chickens (USDA 2011a; 2011b). Though hundreds of slaughterhouses actively contributed to these totals, more than half of the cattle just mentioned were killed at just fourteen plants. A slightly greater percentage of hogs was killed at only twelve (USDA 2011a). Chickens were processed in a total of three hundred and ten federally inspected facilities (USDA 2011b), which means that if every facility operated at the same capacity, each would have slaughtered over fifty-three birds per minute (nearly one per second) in every minute of every day, adding up to more than twenty-eight million apiece over the course of twelve months.¹

Incredible as these figures may seem, 2010 was an average year for agricultural animals. Indeed, for nearly a decade now the total number of birds and mammals killed annually in the US has come in at or above the nine billion mark, and such enormous totals are possible only by virtue of the existence of an equally enormous network of industrialized agricultural suppliers. These high-volume farming operations – dubbed “factory farms” by the general public, or “Concentrated Animal Feeding Operations (CAFOs)” by state and federal agencies – are defined by the ways in which they restrict animals’ movements and behaviors, locate more and more bodies in less and less space, and increasingly mechanize many aspects of traditional husbandry. As a recent report of the United States Department of Agriculture put it, this form of animal agriculture “concentrates large numbers of animals in relatively small and confined spaces, and [...] substitutes structures and equipment (for feeding, temperature controls, and manure management) for land and labor” (USDA 2009, 3).

Although notions of what is “humane” surely vary, few people who confront these facts live under the illusion that nine billion animals can be bred, housed, raised, fed, transported and killed humanely. Until recently, though, those who have brought such ethical concerns about the treatment of agricultural animals to the writings of Holmes Rolston, III are likely to have been somewhat dissatisfied, mostly because his now-classic *Environmental Ethics: Values in and Duties to the Natural World* mentions “modern industrial farming” only once, and only in a parenthetical reference that promises to treat the subject elsewhere (Rolston 1988, 79). Rolston’s *A New Environmental Ethics*, however, pays considerably more attention to questions about the ethical treatment of captive and domesticated animals, and even devotes several pages specifically to a discussion of factory farming. But while this text clearly identifies industrialized animal agriculture as a pressing moral problem, its approach to this problem is primarily descriptive: it conveys important data and highlights potential controversies, but never explicitly

condones or condemns the phenomenon that it documents. In this way Rolston's latest work takes long-standing questions about his assessment of contemporary animal agri-business and, rather than answering them, raises them anew.

The appearance of *A New Environmental Ethics* thus presents us with an opportunity: the occasion to ask again about Rolston's views on animals and the ethics of industrialized animal agriculture. Where does Rolston ultimately stand on this timely issue? Perhaps more importantly, is there room within the philosophical framework that he articulates for a robust critique of factory farming, one that is rooted not only in environmental concerns, but also in concern for the welfare of animals? The goals of this essay are, quite simply, to try to offer some further insight into these questions, to take another look at what Rolston says and why he says it, and to assess whether or not his texts provide us with the resources to say anything else. Given the general orientation of Rolston's writing, though, this investigation does not begin close to home with domesticated animals in agriculture, but farther afield with his views on animal suffering in wild nature.

Rolston on Animals, Predation, and Eating

Rolston's views on animals and ethics are the product of an interesting array of premises, among which is a thoroughly evolutionary outlook that emphasizes the importance of predation in the wild. "Environmental ethics accepts predation as good in wild nature" (Rolston 1988, 56), he says straightforwardly, and in both *Environmental Ethics* and *A New Environmental Ethics* he mentions two closely-related reasons why this is the case. The first, perhaps more obvious reason is that while predation undoubtedly involves suffering for prey animals, it also secures the well-being of predatory ones. "In the trophic pyramid the omnivores and carnivores regularly and necessarily capture values by imposing pain on others," he explains, and hence to object to the suffering that predation entails would be to overlook the fact that, in nature, food chains link the painful sacrifice of one organism's good to another organism's gain (Rolston 1988, 57).

The second and arguably more important reason that Rolston cites for embracing wild predation has to do with the pivotal role that predators play in larger ecosystemic and evolutionary processes. On the one hand, predators eliminate weak, sickly, and otherwise less fit individuals from populations of prey organisms, thereby contributing to the overall integrity of those species.² On the other hand, the routine culling of unfit organisms by predators is one of the primary mechanisms of natural selection, making predation vital to an evolutionary processes that Rolston believes trends towards more diverse and complex life forms. Rolston thus views predation as an integral part of the way in which nature "yields a flourishing of species" (Rolston 1988, 58), a biological force that has helped make possible some of the most significant achievements in natural history. Without predation, and the pain and suffering that comes with it, life on Earth would be greatly impoverished.

Against this background, Rolston argues that when humans encounter wild nature, we are under no obligation to try to alleviate the suffering found there. In fact, he contends that we

ought actively to refrain from doing so in a variety of circumstances, including many in which exercising such restraint may seem callous or cruel. He also argues that, since animals in the wild have no special claim to a pleasant life free of pain, humans have no special duty to provide them with one, even when we come to make instrumental use of them. This moral rule holds true, moreover, not only in the case of wild animals, but also in regards to animals that have been taken out of their natural environments and placed under conditions of domestication. Rolston discerns no particularly forceful obligation, then, to advance the welfare of domesticated animals, and this is because, as Clare Palmer has pointed out, though he recognizes that they have been brought under the care of humans in culture, he still situates their origins in wild nature, such that the appropriate comparison class for assessing our conduct towards them is not other human beings, but other animals (Palmer 2007, 190). Therefore domesticated agricultural animals, like their wild cousins, have “no right or welfare claim to have from humans a kinder treatment than in nonhuman nature” (Rolston 1988, 59).

Consequently, rather than advocating that animal agriculture be made to adhere to some ostensibly more humane ethical standard, Rolston believes that it should be made to “fit [...] into the natural givens, where pain is inseparable from the transfer of values between sentient lives.” He thus rejects the idea that we are required to promote to the greatest extent possible the psychological welfare of agricultural animals, and suggests instead that our moral reflections in this area be guided by a “homologous principle” (Rolston 1988, 61). This principle, which he refers to as a rule of “nonaddition” as opposed to subtraction of suffering (Rolston 1988, 60), urges us to tolerate the pain inflicted upon agricultural animals while being careful not to cause them to suffer in excess of what might have been their lot in the wild. The homologous principle asserts, in other words, that although we should not make agricultural animals suffer excessively, we have no strong duty to ensure that they suffer only minimally.

An important part of Rolston’s thinking on this issue, and one that has attracted the attention of many commentators, is that meat-eating is a basically “natural” human activity, something roughly analogous to predation in the wild that, as such, ought to be viewed in a comparable ethical light. This is, to be sure, a contentious claim, but Rolston’s logic here seems understandable enough: if one adopts an accepting attitude towards the animal suffering caused by predation in the wild, then one ought to adopt a similar attitude toward that which occurs in agricultural contexts, since eating animals is a typical feature of trophic webs and this basic pattern of interaction is still evident in the human use of domesticated animals for food. “Human predation on nature,” we are told, “more or less within the natural patterns, cannot be condemned simply because humans are moral agents, not if nonhuman predation has been accepted as good in the system” (Rolston 1988, 59).

Of course, Rolston is well aware that, of the reasons he advances for accepting the suffering of wild animals, one has little if any relevance to a discussion of agricultural animals. The latter, he observes, “have been removed from the environment of natural selection” (Rolston 1988, 60), and thus while their suffering still occurs “in the context of the transfer of ecological goods, inherited from the wilds,” it is nevertheless no longer situated in the larger context of the

evolutionary development of a species (Rolston 2012, 77). Because of this, he suggests that in agricultural settings there may indeed be some need to employ a “hedonist principle” of minimizing pain (Rolston 1988, 79). “[W]here pain in agricultural or industrial animals has become pointless,” he writes, “because they too have been removed from the environment of natural selection, humans have a duty to remove that pain, as far as they can” (Rolston 1988, 60).

This expression of heightened concern for the welfare of agricultural animals is noteworthy, and it certainly could be taken to suggest that Rolston’s position ultimately stands opposed to some of the more intensive types of animal agriculture that currently exist. Yet the actual import of the hedonist principle in Rolston’s thinking about animals in agriculture, while not entirely clear, appears somewhat minimal. He says, for example, that the principle is “significant,” but refers to it as a “weak ethical rule” (Rolston 1988, 61, 79). He also claims that efforts to minimize pain are a matter of “benevolence” rather than “justice” (Rolston 1988, 61) and that reducing animal suffering below natural, ecosystemic levels “can be commended, but not required” (Rolston 2012, 77). Such statements surely restrict the practical role of the hedonist principle in Rolston’s philosophy, and indicate the priority he typically accords to the homologous principle when assessing the uses to which domesticated and agricultural animals are commonly put. It seems, therefore, that if the hedonist principle adds to a condemnation of any of these practices, its contribution is not very great. But why, we might ask, is this so, and does Rolston’s work really foreclose the possibility of a more substantial critique of animal agriculture’s increasingly mechanized and industrialized forms?

Animal Welfare in the Wild?

We can begin to work towards answers to these questions by examining briefly the relation between Rolston’s views on animals and ethics and those espoused by Peter Singer in his well-known book *Animal Liberation*. First published in 1975, Singer’s text had been in circulation for over a decade before the appearance of Rolston’s *Environmental Ethics*, and although Rolston references Singer somewhat sparingly in the course of his writing, it is clear that his position is developed in large part as a response to the one that Singer helped to popularize.

As it is elaborated in *Animal Liberation*, Singer’s argument rests on two main points. The first, drawn directly from utilitarian moral theory, is that pleasure is a good that ought to be promoted, and pain, as the negation of pleasure, ought to be minimized. The second is that many animals are, like most humans, sentient beings capable of experiencing pleasure and pain. Since most of us readily accept that we should keep to a minimum the pain that we might cause other people, Singer believes that once we recognize that animals too can suffer, it is only logical to include them in our moral calculations. An egalitarian “principle of equal consideration of interests” (Singer 1993, 21) tells us that if animals have welfare-interests, then there is no excuse not to take those interests into account when deciding what to do. “If a being suffers,” he says, “there can be no moral justification for refusing to take that suffering into consideration. No

matter what the nature of the being, the principle of equality requires that its suffering be counted equally with the like suffering [...] of any other being” (Singer 1990, 8).

In keeping with the stress that utilitarians typically place on the need for moral agents to weigh alternatives, Singer adds to this broad moral outline a number of premises relevant to an analysis of animal agriculture, including that humans do not need to eat animals to be healthy, that animals often suffer significantly when we do, and that becoming a vegetarian helps to disconnect us from the vast agricultural system that all too often leads back to the factory farm. Taking these factors into account, Singer argues that we ought to cease supporting animal agribusinesses with our dietary choices. He argues, that is, that a commitment to reducing suffering obliges us to abandon the heavily meat-based diets that, in the modern industrial context, give every indication of bringing us much closer to maximizing pain than to minimizing it.³

As one might expect, among Rolston’s leading criticisms of this approach to animal ethics is that it applies the principle of minimizing pain too indiscriminately, and that those who embrace it are therefore likely to object not only to the pain endured by domesticated and agricultural animals, but also to that undergone by animals in the wild. In *Environmental Ethics*, for example, he says that “if all suffering introduces rights or welfare claims when moral agents come on the scene, a really consistent animal ethics will dislike predation and seek to eliminate it,” and to illustrate this point he cites Steve Sapontzis, who claims that “[w]here we can prevent predation without occasioning as much or more suffering than we would prevent, we are obligated to do so” (in Rolston 1988, 56; Sapontzis 1984, 36). Similarly, in *A New Environmental Ethics* Rolston questions animal activists who condemn hunting on the grounds that it is neither necessary nor humane, asserting that environmentalists will rightly worry that “these activists, though they may love animals, also hate real nature, the wild, raw world in which these animals live” (Rolston 2012, 69).

Remarks like these underscore the connections Rolston regularly draws between a lack of appreciation for natural predation, an inclination to interfere in the fates of wild animals, and the sort of philosophical emphasis on minimizing pain that animates Singer’s work. With these connections in place, it is understandable that he would conclude that the “obligation to universal benevolence is too strong” because it “fails to incorporate any moral tolerance of the processes of wild nature” (Rolston 1988, 54).⁴ But while there is no doubt that Rolston is sharply critical of animal ethicists who over-emphasize, and consequently over-extend, the moral ideal of minimizing suffering, it is not the case that he censures all efforts to safeguard the welfare of animals in the wild. In fact, he provides several notable examples in which he does just the opposite.

In *A New Environmental Ethics*, for instance, he cites the case of a grizzly bear that had been struck and mortally wounded by a truck in Glacier National Park. Fearing that the bear was suffering excessively, park officials elected to mercy-kill it, a decision that Rolston praises on the grounds that “encounter with a truck (an artifact) is no part of the forces of natural selection that have operated historically on bears.” “Where humans cause the pain,” he explains, “they are under obligation to minimize it” (Rolston 2012, 75). Elsewhere he references a case in which

bighorn sheep in Colorado had contracted lungworm and were subsequently dying of pneumonia. Most people believed that the lungworm species in question had come into the area by way of domesticated sheep; others held that it was a native species, but that the bighorns had become more susceptible to it because their winter range had been compromised by human development (Rolston 1988, 53–4; Rolston 2012, 72, 74–5). But since by all accounts the driving force behind the bighorns' plight was human interference rather than natural selection, Rolston commends the actions of wildlife veterinarians to provide them with medical treatment. "Letting the lungworm run its course really was not letting nature take its course," he observes, and thus "both in concern for the species and in concern for suffering individuals, treatment was required" (Rolston 2012, 74–5).

In addition to reinforcing several themes we have already touched upon, what makes these examples especially noteworthy here is that they neither marginalize nor downplay concerns about reducing unnecessary animal suffering. Quite the opposite, they bring such concerns to the fore, thereby providing us with relatively forceful expressions of the idea encapsulated in Rolston's hedonist principle, namely that there is a moral obligation to minimize pain that has lost its ecological or evolutionary functionality. Indeed, these commentaries depict the hedonist principle as obligatory rather than supererogatory, and promote its consistent application even in circumstances involving wild animals in natural settings. Of course, to point this out is not to suggest that Rolston's writing advocates reducing pain to the same extent that a really thoroughgoing animal welfarism arguably would. It is, rather, to indicate that his position is capable of placing more stress on minimizing human-inflicted animal suffering than his discussions of animal agriculture tend to do – enough stress, in fact, that one might very well surmise that a fairly sharp critique of animal agriculture is not only possible within the confines of his eco-philosophy, but actually necessitated by it.

Unnaturally Kind, Unnaturally Cruel

Still, it is not true that one could simply transfer Rolston's prescriptions for the bighorns or the grizzly bear to animals in agriculture, the reason being that the suffering in the former cases was not just human-caused, but also "unnatural." Now, this brings us to one of the more complicated dimensions of Rolston's views on animals and ethics – his reliance on conceptions of what is or is not natural – the full consideration of which falls outside the scope of this essay.⁵ For present purposes, however, it suffices to say that Rolston believes that animal suffering can be unnatural in at least two ways: either by exceeding ecological norms, or by occurring for ecologically atypical reasons, and it is clear from the remarks above that what he finds morally objectionable in the examples cited is not that animals were experiencing pain in unusual amounts, but that their pain was caused by forces foreign to their ecological niches.

The suffering of agricultural animals, by contrast, remains "quasi-ecosystemic" (Rolston 1988, 80), meaning that although it is no longer situated in an evolutionary context, it does occur for a reason commonplace in wild nature: the predation of one organism upon another. Rolston

sees an important difference, then, between the suffering of animals in agriculture and that of bears hit by trucks or bighorns plagued by introduced parasites, a difference that leads him to judge that the suffering of wild animals in such circumstances is less justified than that of domesticated cows and chickens slaughtered for food. Against thinkers like Singer, therefore, who place little moral stock in such considerations, Rolston finds that because the human consumption of agricultural animals represents an ecologically ordinary way in which organisms interact, and is in that regard “natural,” our obligation to minimize the pain that it causes is significantly weakened, if indeed we have any obligation of this sort at all.

Not surprisingly, in opening up the question of what constitutes a natural human use of animals, Rolston’s thinking on this issue has sparked much dialogue and debate, and commentators have found his line of reasoning problematic for a number of reasons. Prominent among these is that, as thinkers like Victoria Davion (2007), John Mizzoni (2002), and Peter Wenz (1989) have all pointed out, human dietary practices have pronounced socio-cultural components, yet if our consumption of animal foods is as much a cultural as it is a biological or ecological phenomenon, then it may be that Rolston’s justification for the suffering it causes fails on its own terms. More immediately pertinent to the topic of this essay, though, is that Rolston’s contention that eating animals is natural often seems to be the result of looking narrowly at the act of eating itself, rather than at the means by which animal products are made available for human consumption.⁶ That is, Rolston usually focuses more on the fact *that* humans eat animals than on *how* we make them available to be eaten, and this not only leads him to write as if establishing the naturalness of eating animals settles the matter of how one justifies their suffering in agriculture, but also causes him to miss what is arguably the most important dimension of this issue in the eyes of many critics of factory farming – critics who, as a general rule, focus less on the practice of consuming animals than on the increasingly industrialized means employed to mass-produce the billions of animals actually consumed.

If we concentrate on how agricultural animals are produced, however, and not just how they are used, what we find is that there are a number of key differences between natural predation and the eating of factory-farmed agricultural animals that, if taken seriously, would require us to temper Rolston’s moral ruling in this case rather substantially. Perhaps the most notable of these is that, while there is a plausible sense in which the use of animals in agriculture parallels predation, there is no doubt that the specific sorts of interactions between humans and other-than-human animals that occur in factory farming bear little resemblance to the trophic interactions between predators and prey in the wild.⁷ Hence, even if the consumption of factory-farmed animals is, in some extremely broad sense, “natural,” the process by which it occurs is, to borrow Rolston’s phrasing, decidedly culturally novel.

Closely connected to this is the further issue that, in contradistinction to what occurs in spontaneous nature, high-volume animal agri-businesses create a number of unique problems for, and usher in an array of maladaptive strategies among, the animals that are subjected to them. These problems, which are well-documented in the literature on factory farming and reviewed in both Singer’s *Animal Liberation* and Rolston’s *A New Environmental Ethics*, stem from the fact

that the husbandry and manufacturing techniques of factory farms elevate animals' levels of stress, decrease their resistance to disease, and increase their aggressive and self-destructive behaviors. All of this, in turn, prompts farm and facility operators to try to mitigate the negative impacts of such things through a variety of preventative measures, including "de-beaking" chickens, docking the tails of pigs, and greatly increasing the use of antibiotics – practices that are, without question, artificial solutions to equally artificial problems.⁸

Finally, we might consider that factory farming, unlike predation in the wild, involves domesticated agricultural animals that are deliberately bred for dependence on humans, something that many would argue generates duties to them beyond those that we might have to animals in the wild. Indeed, that we have heightened obligations to domesticated animals is an idea with which even Rolston apparently concurs: in the essay "Living on Earth," for instance, he replies with a simple "Amen" to Palmer's claim that the domestication of animals "can be seen as a process such that, in creating relationships that close down domestic animals' abilities to live independent lives, creates special human responsibilities to provide for them" (Rolston 2007, 241; Palmer 2007, 199).

Taken in conjunction with the various dimensions of Rolston's philosophy that we have been examining, the conclusion towards which these reflections are leading is not terribly difficult to see. What we have said to this point does not go so far as to support the more sweeping claim that eating animals is absolutely morally prohibited because it is absolutely unnatural; it indicates, rather, that despite whatever parallels Rolston might want to draw between them, what goes on in factory farming is dissimilar enough from predation in the wild that our obligation to eliminate the suffering it causes would have to be far greater than he ever really admits, and for reasons that are essentially his own. Expressed in terms closer to Rolston's, we could just say that our commentary thus far shows that even if wild animals ought only to be spared unnatural suffering, we still have every reason to posit that domesticated agricultural animals ought to be spared highly artificial forms of suffering that only very loosely conform to some presumably natural or ecological pattern. While there may indeed be no need for us to be "unnaturally kind" to wild animals, neither ought we to be unnaturally cruel to domesticated ones, and nowhere is such cruelty more apparent than in factory farming.

Eating in Place

As is often the case in philosophical treatments of morally complex issues, we have had to follow a somewhat circuitous path to arrive at the conclusion just stated. But given that this conclusion has been drawn in large part from resources in Rolston's own writings, one might wonder why he himself never formally drew it, particularly after taking such explicit care in *A New Environmental Ethics* to chronicle what happens down on the modern factory farm. To be sure, this is not meant to imply that Rolston has ever claimed that factory farming is morally laudable or humane, and in fact he says quite frankly in at least one place that he believes it is not (Rolston 2007, 240). As we bring our analysis to a close, though, it may be worthwhile to

consider why he appears not to have integrated this insight more fully into his thinking about animals and ethics, despite the fact that his writings seem to contain most of the elements necessary to do so.

Although this query is admittedly somewhat speculative, there are several things that we might initially suggest in response to it. There is, for example, Rolston's own candid admission that his view of factory farming may have been skewed by his experiences with agricultural animals growing up in rural West Virginia (Rolston 2007, 240). We might also point to his apparent acceptance of the idea that, since domesticated agricultural animals are bred and raised for human consumption, we are somehow justified in compromising their individual welfare when using them to this end.⁹ Additionally, there is the marked preference that he displays for wild animals, and his corresponding tendency to view domesticated animals as inferior or "degraded."¹⁰

As the line of argument taken in this essay already indicates, however, it seems likely that more important than any of the explanations just offered is that Rolston's work has always sought to affirm the value of both natural processes and our human participation in them, and he clearly views eating meat as a primary way in which we do both: to eat animals is, in Rolston's estimation, at one and the same time to embrace the role of predation in nature, and to accept our own place in the ecological order that includes it. But while Rolston is absolutely right to stress the need to affirm our human belonging to nature, including our places in the trophic webs that are such a vital part of the way in which the world works, the more one studies this particular issue the less clear it becomes why the eating of domesticated animals that have been born and raised under conditions of confinement agriculture would be regarded as a way of doing so.

Of course, one need not reject all meat-eating in order to condemn factory farming. But by the same token, one surely need not accept all meat-eating in order to accept one's standing in a world in which suffering plays its part. In fact, it would seem more accurate to say that to embrace the ecological realities in which we are always implicated would be, at the same time, to reject any ecologically naïve vision of ourselves as indiscriminate consumers of sentient beings, or a morally empty and dominionistic commodification of some of our closest biological kin. Indeed, surveying Rolston's many invaluable contributions to the field of environmental ethics, it could easily be argued that, on the whole, his works not only convey these very messages quite powerfully, but that they are among the leading intellectual and cultural forces that have helped us to understand their true significance. One can only hope, therefore, that his reply to our expression of them would be another "Amen."

Notes

1. US slaughter statistics for the year 2011 appeared only days before this essay was submitted for publication, and are consistent with the data for 2010. They can be found on-line at the USDA web addresses provided for the 2010 figures.

2. See, e.g., Rolston 1988, 58; Rolston 2012, 73.
3. Chapters 3 and 4 of Singer 1990 – titled “Down on the Factory Farm” and “Becoming a Vegetarian,” respectively – cover these points in detail.
4. Rolston’s ecologically-oriented attitude towards predation and the suffering it causes does diverge from the attitudes of some animal ethicists, yet we should make clear that the latter are not wholly ecologically un-informed in the way that Rolston’s comments sometimes seem to suggest. Jennifer Everett, for example, says that it is reasonable to believe that there are “indirect, instrumental benefits of predation to aggregate animal welfare,” and hence the trophic asymmetries we have been discussing “will be valued by animal welfarists because they conduce ultimately, albeit indirectly and via complex causal chains, to the well-being of individual animals” (Rolston 2001, 48). Steve Sapontzis, too, is unambiguous in his claim that interference with predation often would produce more suffering than predation itself, and he argues that because of this animal activists would do more good by concentrating on “alleviating the unjustified suffering humans cause animals than by attempting to prevent predation among animals” (Sapontzis 1987, 247). In his essay “Sentientism,” Gary Varner notes this aspect of Sapontzis’s argument, and suggests that it points to something of a reconciliation between animal ethicists and other environmental philosophers. “To the extent that it is factually correct,” says Varner, “that prey species ‘need’ their predators to stabilize the ecosystem on which they depend, even predator reintroduction can look good from a sentientist perspective” (Varner 2003, 200).
5. For more extensive discussions of Rolston’s conception of “natural” human uses of animals, see: Rolston 1989; Palmer, 2007.
6. This focus is evident in many of Rolston’s remarks, ranging from his assertion in the early essay “Treating Animals Naturally?” that humans are “naturally omnivores” (Rolston 1989, 134), to his claim in *A New Environmental Ethics* that “[m]eat eating in culture exploits animals but this also fits into the natural givens” (Rolston 2012, 77). Marti Kheel (2008), as well as Paul Veatch Moriarity and Mark Woods (1997), has also noted this feature of Rolston’s arguments in favor of eating animals.
7. That is, while factory farming may function to serve some human *ends* comparable to the ends served by the actions of predatory animals, it diverges quite sharply from the *behaviors* in which other-than-human animals engage in order to do so.
8. These problems and practices are discussed in Rolston 2012, 77–81, and more extensively in Singer 1990, chapters 3 and 4.

9. As evidence of this, we might cite Rolston's claim that a "main problem with that concern about causing domesticated food animals pain is that all these food animals would cease to exist if they did not live to be eaten" (Rolston 2007, 241). See also: Rolston 1988, 78.
10. This tendency can be seen in much of Rolston's writing about domesticated animals, though the specific reference here is to Rolston 2007, 240. Palmer claims that since Rolston is "[p]rimarily interested in the context of the wild, concern for the context of domestication is slight and engagement with it minimal (and there is a persistent sense that the domesticated and rural, tainted by human contact, are inferior contexts to the wild, as are the animals within them" (Rolston 2007, 193).

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