

HISTORY AND ENVIRONMENTAL CRISIS

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Received / Priljeno: 12. 9. 2014.

Accepted / Prihvaćeno: 1. 7. 2015.

Original scientific paper / Izvorni znanstveni rad

UDC / UDK 94(100):[502.3:551.583]

1:316.4

Summary

The earth has existed for 4.54 billion years; biologically modern humans have been around for only 200,000 years. 99.9% of the entire time earth has existed, it existed without modern humans. In the mere 200 years of industrialized capitalism our species has developed into a threat to the life-sustaining systems of our planet. Writing law and forming governing institutions adequate to confront this crisis is a daunting task that demands international legal regimes based in an emergent theory of human species-governance that acknowledges the rights of the living earth. This essay examines how existing environmental governance is plagued by weaknesses and co-opted by neo-liberalism. A number of environmentally dedicated individuals have charted pathways forward, but we do not yet have a coherent edifice of policy and practices that will solve the environmental crisis. The promising emergent link between environmental law and human rights requires leverage from a richer conceptualization of the environment to deliver effective environmental governance. The difficult task ahead of us is to develop law that recognizes the rights of evolved life on earth and that vests humans with the responsibility to respect and protect the evolved world.

Key Words: climate change, environment, crisis, human rights, globalization, UNFCCC, law, governance, pacha mama, right to nature, adaptation, eco-cosmology

Ključne riječi: klimatske promjene, okoliš, kriza, ljudska prava, globalizacija, UN Konvencija o klimatskim promjenama (UNFCCC), zakon, upravljanje, Majka Zemlja (pachamama), pravo na prirodu, prilagodba, eko-kozmozologija

We have grown accustomed to the hue and cry about global warming and, as a global society, mostly find it rather too difficult to do much about it. However, this does not mean that there is not an environmental crisis afoot. Like so many other contemporary troubles—the war in Afghanistan, chronic and global violence against women, continued leaking of radiation from the Fukushima nuclear reactors—specialists labor to make headway while most of us continue on with our lives.

The essay took form first as an extended review of several books that had been chosen due to the academic prominence of their authors and their timeliness in addressing environmental law and governance. Lawyers are trained to think within the highly structured matrices of the law, and their writing usually reflects these constraints. My perspective as a historian and as a lawyer, however, illuminated the edges of the legal texts, so that taking account of what was beyond those edges—the forces and assumptions that shaped the legal discussions—took on an importance of its own. Hence the essay developed into a wider assessment of the contemporary environmental crisis and law, and an appraisal of the failure of governance to address both climate change and this broader environmental crisis.¹ Governance and glo-

¹ The books under review included, Donald K. Anton and Dinah L. Shelton, *Environmental Protection and Human Rights* (New York: Cambridge University Press, 2012); Frank Biermann and Philipp Pattberg, eds., *Global Environmental Governance Reconsidered* (Cambridge, MA: MIT Press, 2012); David R. Boyd, *The Environmental Rights Revolution: A Global Study of*

bal governance here both refer to the laws that are written, enacted and (perhaps only partially) enforced to constrain behaviors and structure human endeavors. Bear in mind that the focus throughout this essay is on environmental law and law-based governance, and how this law is meeting— or failing to meet— the challenges of the present environmental crisis. The sophistication of environmental philosophy and social theory falls outside the grasp of law. Indeed, we shall see how law has remained largely wedded to an under theorized and deeply instrumental understanding of the environment.

This essay considers various legal solutions to the contemporary environmental crisis. The most ambitious proposal, as for example advanced by Frank Biermann and Philipp Pattberg in *Global Environmental Governance Reconsidered*, is to create a World Environmental Organization.² In the absence of such a global governing body, some legal scholars advocate assimilating environmental rights to fundamental human rights. Such is the solution presented, for example, in Donald Anton and Dinah Shelton's teaching-tome, *Environmental Protection and Human Rights* and in David Boyd's *Environmental Rights Revolution*.

The philosophical question of humanity's relation to the environment subtends the association between environmental protection and human rights, and we shall see how associating environmental rights to human rights draws on a conventional, largely unexamined, concept of the environment.³ What is meant by the term »environment« is infrequently considered in legal texts, and the paucity of thought given to this itself is indicative of the subordinated status of the environment. It seems that in law, the »environment« usually means that which is not the primary focus. Neither the subject (the active agent), nor the object (the valuable product), it is what merely surrounds or is left-over in the wake of human activity. The environment is a type of under-recognized, under-theorized, remainder category and its relative low status in law can in some part be attributed to this. Law, in this respect, has failed to integrate more sophisticated understandings of humanity in relation to the living world. This might finally change in response to the specter of climate change as it haunts our global society, forcing upon us a new awareness of humanity's place in deep time.⁴ Reorienting our sense of humanity within the scale of geological and cosmological time entails profound cultural, ethical, and governance implications. These are beginning to be acknowledged, and have found some tentative expression in law and governance.⁵ However, as this essay demonstrates, environmental law and governance are largely wed to market thinking and neo-liberal development agendas. The environmental crisis, while surely belonging to the cycle of repetitive crises of late capitalism, also partakes of history on a cosmological scale.⁶ More than the history

Constitutions, Human Rights, and the Environment (Vancouver: University of British Columbia Press, 2012); Michael B. Gerrard and Katrina Fischer Kuh, eds., *The Law of Adaptation to Climate Change: U.S. and International Aspects*, (Washington, DC: American Bar Association, 2012); Al Gore, *The Future*, (New York: W.W. Norton, 2013).

² Frank Biermann and Philipp Pattberg, eds., *Global Environmental Governance Reconsidered* (Cambridge, MA: MIT Press, 2012).

³ That this is so in texts devoted to law and empirical governance reflects that the sophisticated discussions in academe have failed to translate into practice. For just one example, contrast, the recognition of humanity's interconnection and entanglement with nature discussed in Timothy Morton, *Ecological Thought* (Cambridge, MA: Harvard University Press, 2010). The (limited) exception, as we shall see, is in a small sector of South America, where pacha mama has emerged into law.

⁴ Orientation toward deep time has, itself, a history. See, William L. Thomas, Lewis Mumford and Carl O. Sauer, *Man's Role in Changing the Face of the Earth* (Chicago: Chicago University Press, 1956). See also, Alice Bullard, *Exile to Paradise* (Palo Alto: Stanford University Press, 2000), 21-29.

⁵ Which is not say that there are not significant efforts to retheorize governance in response to the contemporary environmental crisis, see, notably, John Barry, *The Politics of Actually Existing Unsustainability: Human Flourishing in a Climate-Changed, Carbon-Constrained World*, (New York: Oxford University Press, 2012); David Bollier and Burns Weston, *Green Governance: Ecological Survival, Human Rights and the Law of the Commons*, (New York: Cambridge University Press, 2013); and Erika Cudworth and Stephen Hobden, *Posthuman International Relations: Complexity, Ecologism and Global Politics* (London: Zed Books, 2012).

⁶ On permanent crisis see, for example, Peter Redfield, »Doctors, Borders, and Life in Crisis, *Cultural Anthropology*, at 335-339; Stephen Morton, *States of Emergency: Colonialism, Literature and the Law*, (Liverpool: Liverpool University Press), and Bonnie Honig, *Emergency Politics: Paradox, Law, Democracy*, (Princeton: Princeton University Press, 2009). Honig takes Giorgio Agamben's theory of emergency and bare life into a newly productive direction, arguing that emergencies can be sources of new rights and new laws, and function as a type of everyday democratic negotiation. For Giorgio Agamben's rethinking of Carl Schmitt's theory of sovereignty in *Political Theology* (1922) and Walter Benjamin's eighth thesis on history see, *Homo Sacer*:

of capitalism, the history of evolved life is at stake, and an awakening of governance to this deep-time historical dimension is required.

Unless those who write the laws grapple with the deeper issues sketched in the preceding paragraph, law and governance are destined to remain handmaidens to market and development forces. Some commentators, such as Mark Maslin, have already consigned the governance of climate change to failure because efforts to date have failed to curb carbon emissions.⁷ But even Maslin acknowledges the need to adapt, which, as we see in Michael Gerrard and Katrina Fischer Kuh's book, is a prominent strategy of climate change governance.⁸ Adaptation is not an intellectually ambitious set of law and policies. As presented in the volume edited by Michael Gerrard and Katrina Fischer Kuh, adaptation to climate change demands relatively little in the way of intellectual or cultural innovation even as it entails enormous economic costs.⁹ Moreover, no matter how great the failure of environmental governance, we will always-- to the point of our species extinction-- need to continue to strive to provide good governance. However, the daily hard-scrabble effort to earn a living, whether on the individual, national, or global level, often precludes environmental care-taking. In the aggregate, productivity and consumerism trump environmentalism. This truism—that productivity and consumerism trump environmentalism—illuminates the contemporary legal relation between humanity and the environment. Humanity dominates, resources serve, what is left over is the environment.

Moving beyond this instrumental relation to the environment is made more possible when we grasp the contemporary environmental crisis as an unparalleled moment in history. This is not just a crisis for specific countries, or a crisis of globalization. It is a crisis in cosmological history. Only by contemplating the vast expanse of time in which our anthropogenic environmental devastation is a tiny wisp of half of a moment, can we begin to comprehend the historical cusp of our present moment. This conviction that we must understand the environmental crisis within the perspective of deep, cosmological time recognizes that so far as we know, our very existence is an exceptional event. Taking perspective on Deep Time generates awe and fear. Awe is provoked by the unlikely treasure that is the evolved world as we know it. Fear arises from knowledge of our current unparalleled and acute assault on the evolved world. Deep time teaches us the fleetingness of our civilization and the momentousness of our environmental rapacity. It is a means of taking perspective and awakening to the present crisis.

1. DEEP TIME, THE NEAR FUTURE AND SPECIES GOVERNANCE

A deep time perspective on humanity's relationship to the environment allows us to cultivate an understanding of the magnitude of our natural inheritance and to recognize the importance of developing species governance. Our natural inheritance entails the unlikelihood and utter aloneness of our blue planet within known space, and the extent, therefore, of our duty to ensure we do not ruin this singular cosmological event nor that we deprive future generations of the plenitude of evolved life. In sum, thinking about the present in terms of deep time clarifies our perception of crisis and our sense of responsibil-

Sovereign Power and Bare Life, (1995), trans. by Daniel Heller Roazen (Palo Alto: Stanford University Press 1998). Assimilating climate change politics into national security protocol has powerful advocates, so that the climate crisis is cast in its essence as a national security crisis. See, e.g., Caitlin E. Werrell and Francesco Femia with Preface by Anne-Marie Slaughter, eds., *The Arab Spring and Climate Change* (Washington DC: Center for American Progress, February 2013), available at <http://www.americanprogress.org/wp-content/uploads/2013/02/ClimateChangeArabSpring.pdf> (accessed 3/20/13). Slaughter argues for a reformulation of foreign policy indicators in which climate change is recognized as producing a complicated set of stressors that can destabilize populations and undermine governmental order. The new foreign policy should cultivate 'soft' security factors such as human security, livelihood protection, and sustainable development and de-emphasize cold war 'hard' security factors (4). This augurs an increased emphasis on bio-politics in the international arena.

⁷ Mark Maslin, *Global Warming: A Very Short Introduction* (New York: Oxford University Press, 2008).

⁸ Michael B. Gerrard and Katrina Fischer Kuh, eds., *The Law of Adaptation to Climate Change: U.S. and International Aspects*, (Washington DC: American Bar Association, 2012).

⁹ Michael B. Gerrard and Katrina Fischer Kuh, eds., *The Law of Adaptation to Climate Change: U.S. and International Aspects*, (WashingtonDC: American Bar Association, 2012).

ity. It does this because when we think of the present in terms of deep time we gain an understanding of the singular value of our natural inheritance.

Al Gore's *The Future* does an admirable job of bringing the current crisis into focus within a deep time spectrum.¹⁰ Already in the Introduction Gore frames his book within deep time, describing an earth 4.5 billion years old, the emergence of life 3.8 billion years ago, the development of multicellular life 2.8 billion years ago, the appearance of primates 65 million years ago, and the probable extinction of the sun 7.5 billion years in the future. In anticipation of his corrective focus on deep time Gore comments that, the »amount of time we devote to these vast stretches of time in the past and future are often fleeting at best.«¹¹ However, humans are now conscious agents of evolution and a powerful force in geophysical events, the responsibilities incurred with these powers must be acknowledged and shouldered.¹²

The task of imagining human agency and human governance within deep time sometimes veers directly into dooms-day proclamations. For example, prominent biologists and ecologists have recently argued that population and economic pressures are pushing the earth to a planetary scale tipping point.¹³ Gore is cautious of such end-days arguments, because he feels they are overused and thereby, like the boy who cried wolf, desensitize people to real dangers.¹⁴ A tradition in Western thought of (social) scientific doomsday predictions runs from Thomas Malthus at the end of the eighteenth century at least through the 1972 publication of *Limits to Growth* by Donella Meadows.¹⁵ In a deeply reasonable manner, Gore remains highly attuned to hedges, fresh possibilities, unexpected discoveries and technological innovations that, when they arise, will decisively alter what looks to be a scenario leading inevitably toward a disastrous tipping point.

Gore also proposes that if we are to understand humanity within the billions of years of cosmological time, or even if only within the comparatively narrow time of life on planet earth, this enjoins as well, for adequate historical perspective, that we consider the accelerating rate of historical change and what type of fore-shadowing of the future is perceptible. Deference to futurists such as Ray Kurzweil, Mitch Kapor and Peter Diamandis leads us to anticipate a world of implanted nano-computers that enhance a wide variety of human biological capacities and deeply seductive virtual realities such that today's humanity as it exists in (largely inattentive or instrumental) relation to the environment is dwarfed and nearly irrelevant.¹⁶ We, the globalizing post-modern, will be shortly consigned to a historical relevance akin to that of the Neolithic era. We are currently in a period of »hyper-change,« which, Gore notes, »we have difficulty even perceiving and thinking clearly about.«¹⁷ And yet, to live our current historical epoch responsibly and sustainably, we must try. This foray into deep past and near future aids the evocation of our precarious, pivotal present moment.

Commitment to redeeming or protecting the natural world will not, axiomatically, arise from the technological marvels that are surely on the horizon. This is a core thesis of Gore's *The Future*. Futurists and technophiles generally underestimate the irreducible need to govern wisely. Singularity University, the Silicon Valley futurist educational outpost, features genomics, robotics, Internet studies, energy and the environment, and nanotechnology, but does not feature governance. Conversely, Naomi Klein writ-

¹⁰ In emphasizing humanity in the context of deep time, Gore joins others such as Edward O. Wilson, *In search of Nature*, (Washington DC: Island Press, 1996), who wrote, »We need this longer view . . . not only to understand our species but more firmly to secure its future« x).

¹¹ Gore, *The Future*, p. XXX.

¹² Gore, *The Future*, p.209.

¹³ See Anthony Barnosky et al., »Approaching a State Shift in Earth's Biosphere,« *Nature* June 7, 2012.

¹⁴ Al Gore, *The Future*, p.144.

¹⁵ Gore, *The Future*, p. 144.

¹⁶ The most prominent futurist thinking is represented by Ray Kurzweil, *The Singularity is Near: When Humans Transcend Biology*, (New York: Viking Press, 2005) and Peter H. Diamandis with Steven Kotler, *Abundance: The Future is Better than You Think* (New York: The Free Press, 2012), see especially, pp.53-54. Gore discusses the singularity on 240-42. Larry Page, founder of Google, has asserted that in the near future »[Google] will be included in people's brains,« (see, Steven Levy, *In the Plex: How Google Thinks, Works, and Shapes Our Lives* (New York: Simon & Shuster, 2011, cited in Diamandis & Kotler, p.55).

¹⁷ Gore, *The Future*, p.38.

ing about the prospect of a geo-engineering solution to climate change beat an old (if not worn out) drum when she claimed that it is the newness of the tech fix that is threatening because it would pass some imagined threshold separating humans from nature.¹⁸ Hybrids have already long been with us.¹⁹ Frankenstein – the bio-technological monster-- has haunted our civilization since 1818. What is to be feared and guarded against is the hubris of the technophiles who credulously believe that innovations, without good governance, will cure us of our environmental cravenness. The hyper-intelligent, nano-augmented humanity, for example, might merely pursue a hyper-technocratic way of living, a way of living in which virtual reality becomes that which matters most, and in which the living earth of billions of years of evolution is mostly irrelevant for the vast majority. The mere blink of an eye which is the industrial age could accomplish vast destruction of much of the eons of evolution.

Gore finds some grounds for optimism in the widespread access to the Internet, because of its democratization of learning and of public access to political speech. He lauds the internet-facilitated growth of the »world mind« as a counter-force to television, which he argues has been a tool of corporate oligarchy.²⁰ However, despite the promises of the future, Gore worries whether nanobot-augmented, Internet-internalized, bioengineered humans, will care.²¹ He advocates for time-tested reason-based politics and for a plethora of policies designed to rein-in anti-democratic technologies, but he concedes that such reason-based politics will fail without leadership »that is based on the deepest human values«.²²

These »deepest human values« that can save us from »developing« the earth to exhaustion are left unexplored by Gore. This is a major omission. Reason alone is inadequate to the task. The rejection of science by climate change deniers should not blind us to the truth that, generally speaking, reason and science-based thinking have served environmental depletion and destruction quite well.²³ Cost benefit analysis, risk analysis, all manner of scientific innovations, the academic field of capitalist economics – all of this is reason based and also often serves the forces that are deeply implicated in the current crisis. Values—themselves arising from realms of experience not always deeply subject to reason-- underwrite reason, giving it a goal for which it can elaborate pathways. Our democratic system of governance is committed to allowing a plurality of values, and yet this liberalism has fallen under the spell of a type of least-common-denominator, economic man. The deck is now stacked, even within environmental law as we shall see, thoroughly in favor of those who value the production of money above other goods. In this system, the natural world exists to serve the production of money.

In light of this certainty, Gore calls for regrounding our law and politics on the deepest human values. One illustration of such an attempt is the agenda of the Yale Forum, which is housed within the Yale School of Forestry. The Yale Forum sees the fundamental relationship between humanity and the evolved world as an errant religiosity, the product of an over-reliance on a precept of divinely ordained human dominion over the world and under-recognition of the cosmos as an unfolding of the divine. The current Yale Forum Directors, Mary Evelyn Tucker and John Grim, take their inspiration from Thomas Berry's lifelong quest to re-envision humanity's relation to the earth as essentially a sacred relationship.²⁴ Inspired in part by Pierre Teilhard de Chardin, Berry wrote cosmological history that invested humanity with a fundamental role in evolving a sustainable future. He sought a reinvention of humanity at the species level »by means of story and shared dream experience.«²⁵ Regarding law and the reinvention of the

¹⁸ Naomi Klein, »Geoengineering: Testing the Waters,« *New York Times*, Sunday Review, p.4, Oct. 27, 2012.

¹⁹ Bruno Latour, *We've Never Been Modern*, trans. by Catherine Porter (Cambridge, Harvard University Press, 1993).

²⁰ Gore, *The Future*, p.57.

²¹ Gore, *The Future*, pp.361-62.

²² Gore, *The Future*, for example pp. 104 and 369-74.

²³ For a notable recent attempt to deploy reason as a primary goad to environmental commitment see Peter Singer, »Changing Values for a Just and Sustainable Future,« in *The Governance of Climate Change*, eds. David Held, Angus Hervey and Marika Theros, (Malden, MA: Polity Press, 2011), 144-161.

²⁴ The activities of the Forum include many faith traditions, as is evident from their calendar of events (available at <http://fore.research.yale.edu/>). The directors' relationship to Berry is close. See for example, Thomas Berry, *The Christian Future and the Fate of Earth*, ed. by Mary Evelyn Tucker and John Grim, (Maryknoll, NY: Orbis Books, 2009).

²⁵ Berry, *The Christian Future*, 117. Berry's ecozoic cosmology is presented in, Brian Swimme and Thomas Berry, *The Universe*

human species, Berry wrote of the need for »legal rights of geological and biological as well as human components of the Earth community. A legal system exclusively for humans is not realistic.«²⁶

The call for species governance within a cosmological perspective is a compelling specific iteration of the »deepest human values« invoked by Gore. For effective governance the prospect of eco-cosmological myths for the masses is an earnest possibility, while for historians a whiff of irony accompanies the project.²⁷ Dipesh Chakrabarty, writing from the perspective of social history, has also proposed the creation of species governance.²⁸ Consciousness of the collective power of humanity to alter global climate is a type of species consciousness that can be mobilized to re-conceptualize humanity's relationship with evolved life and the globe that sustains it. Species governance calls for a global recognition of humanity's responsibilities toward the evolved world. Without tying human law to species governance and to deep time as revealed by science, the project of effective environmental governance cannot be achieved. To say that this is a battle over the course of global history is not an exaggeration, although it is a misapprehension to consider those interested in defending the diversity of evolved life well positioned in relation to those interested in defending the elites of the most privileged form of evolved life, homo sapiens.

2. GLOBAL GOVERNANCE

The contemporary environmental crisis exceeds in scale any other contemporary issue, and the dimensions of this crisis should compel us to heighten our engagement and to re-think the inter-dependence and inter-twined well-being of humanity and the evolved world. Anthropogenic climate change serves as the call-to-arms, and yet the environmental crisis as a whole is much larger than the already enormous challenge of climate change. The broad array of environmental harms includes discharge of toxic chemicals, pollution by plastics, habitat destruction, loss of biodiversity, destruction of the ozone layer, destruction of rain forests, inadequately stored radioactive waste, depletion of fisheries, mercury poisoning and acidification of the oceans, depletion and pollution of aquifers, and more.²⁹ The cumulative impact of all these depletions, excretions, and excesses is an ecosystem in severe, multi-faceted crisis. We are in the midst of a sixth great extinction of species. The current rate of extinctions compares to the extinction of the dinosaurs 65 million years ago except that the contemporary causes are anthropogenic.³⁰

Good governance is an essential component of the methods by which environmental devastation will or will not be curbed. Yet, as is somewhat reluctantly acknowledged in Biermann and Pattberg's *Global Environmental Governance Reconsidered*, environmental governance is not robust. While the European Union has in the last decades pursued an active environmental agenda, Canada under its current government has become decisively anti-environmental. In the U.S. there are continued attacks on environmental

Story: From the Primordial Flaring Forth to the Eozoic Era – A Celebration of the Unfolding of the Cosmos (New York: HarperCollins, 1992).

²⁶ Berry, *The Christian Future*, 118-119.

²⁷ Martin Jay, »Intention and Irony: The Missed Encounter Between Quentin Skinner and Hayden White,« *History & Theory* 52:1, 32-48 (5 Feb. 2013),

²⁸ Dipesh Chakrabarty, »Postcolonial Studies and the Challenge of Climate Change,« *New Literary History* 43:1 (Winter 2012), 1-18, 13-14.

²⁹ For in-depth depictions see, J.R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (New York: W.W. Norton & Co., 2001). The title of his book is a rejoinder to Ecclesiatics 1:9-11, »What has been is what will be, and what is done is what will be done; and there is nothing new under the sun. Is there a thing of which it is said, 'See, this is new?' It has been already, in the ages before us. There is no remembrance of former things, nor will there be any remembrance of later things yet to happen« (quoted in McNeill, xxi). McNeill points out that, contrary to the wisdom of Ecclesiatics, the extent of anthropogenic environmental destruction is unprecedented in human history, »the place of humankind within the natural world is not what it was« (xxi). »This is the first time in human history that we have altered ecosystems with such intensity, on such scale and with such speed« (3). Anton and Shelton, generate a vivid portrayal of the wide-spread crisis via citing the Millennium Ecosystem Assessment (see 3-15). The original report is the World Resource Institute, *Millennium Ecosystem Assessment, Ecosystems and Human Well-Being* (Washington, D.C.; Island Press, 2005), available on-line at <http://www.unep.org/maweb/en/synthesis.aspx>.

³⁰ McNeill, 262-263.

regulation, whether for clean air or clean water. The U.S. Congress refuses to act on climate change and in 2013 appointed a climate change denier, Chris Stewart of Utah, to head a committee that oversees the EPA and climate research. Emergent economies in India, China and Brazil pursue development with steep environmental costs. These examples could be multiplied, but the point is already clear: environmental governance is not a favored child. The contributors to *Global Environmental Governance* do not dwell on the quality or extent of environmental governance; rather they seek out, describe, and analyze the emerging forms of global environmental governance. This new global governance of the environment entails new actors (international bureaucracies, global corporations, non-governmental organizations, and science networks), new transnational governmental mechanisms (environmental regimes, public-private partnerships, and governance experiments), and new interlinkages and fragmentations (horizontal links between institutions, international-domestic links, and alignments in regional governance). In this study, a portrait gradually emerges of environmentalism co-opted by neo-liberalism and consigned to market forces (see especially Chapters 5 & 6 and the conclusion).

The hold of neo-liberalism over the international environmental agenda is show-cased in the changed meaning of sustainability in legal circles coupled with the rise of so-called public-private partnership.³¹ The sustainability movement that emerged in 1970s environmentalism was a way of drawing attention to »the ecological limits of industrial development and population growth.«³² Implicit in this early use is that the environment is what should be sustained by moderating the methods and goals of development. Sustainability meant sustaining a healthy environment. In 1987, in the Brundtland Commission report, sustainable development was described as »development which meets the needs of the present without compromising the ability of future generations to meet their own needs.«³³ Bäckstrand and her co-authors remark on the Brundtland definition, »not only was the term *environment* excluded from the definition, but what was to sustain has also changed: 'Humanity has the ability to make *development* sustainable'«. ³⁴ By 2002, the Johannesburg World Summit on Sustainable Development inserted private enterprise as a chief mechanism for achieving environmental goals via the public-private partnerships initiative (this change of emphasis is not discussed in Anton and Shelton, who anchor their presentation of sustainable development in the already-neo-liberal Brundtland Report).³⁵ Bäckstrand *et al.* describe these partnerships as driven by the priorities of northern actors or large developing countries rather than by the greatest environmental needs.³⁶ The legitimacy and effectiveness of these partnerships, they argue, are »modest at best.«³⁷ The partnerships lack accountability mechanisms and do not operate with transparent or participative decision making. Bäckstrand *et al.* recommend requiring reporting, monitoring, implementation assistance and documentation. These techniques are essential mechanisms of established international environmental governance. That a major institution omitted them in favor of private, non-transparent enterprise speaks volumes. Without such mechanisms and without benchmarks for goal attainment, no accurate measurement of the success of the partnerships can be obtained.

³¹ Karin Bäckstrand, Sabine Campe, Sander Chan, Ayşem Mert, and Marco Schähoff, »Transnational Public-Private Partnerships.« Chapter Six in Biermann and Pattberg, eds., *Global Environmental Governance Reconsidered*, (Cambridge, MA: MIT Press, 2012).

³² Bäckstrand *et al.*, *Transnational Public-Private Partnerships*.« p.132.

³³ Bäckstrand *et al.*, *Transnational Public-Private Partnerships*.« p.132.

³⁴ Bäckstrand *et al.* p.132, *emph. in the original*). For rethinking of sustainability from critical and non-Western perspectives see the special issue of *Development* 54 (2011) as well as the *Development* collection on sustainability available at <http://www.palgrave-journals.com/development/collections/sustainability.html> (accessed 4/25/13), in particular, Catherine Walsh, »Development as 'buen vivir': Institutional Arrangements and (de)colonial Entanglements,« *Development* 53, no.1 (2010), 15-21 (discussed below); and Terry Barker, Şerban Scricieiu and David Taylor, »Climate Change, Social Justice and Development,« *Development* (2008) 51, 317-324, which advances an ethical, pro-poor and pro-development climate change regime. See also the debates about the constitutional developments in Ecuador and Bolivia referenced below in this essay.

³⁵ Anton and Shelton, p.87.

³⁶ Bäckstrand *et al.*, *Transnational Public-Private Partnerships*.« p.142.

³⁷ Bäckstrand *et al.*, *Transnational Public-Private Partnerships*.« p.142.

Biermann and Pattberg envision the creation of a World Environmental Organization (WEO) achieved by elevating the United Nations Environmental Program (UNEP) to the status of International Organization.³⁸ This is not an original idea, but rather one with currency among those active in environmental governance.³⁹ Sam Adelman, for example, has proposed a WEO to enforce a global recognition of the rights of the environment as a foundational norm, a precondition for human life and for human rights.⁴⁰ The likelihood or necessary preconditions for member states of the U.N. to support the establishment of a WEO are left unexplored by Biermann and Pattberg, but such political difficulties are overwhelming. It would be wonderful if they could explain how to muster sufficient support to establish a WEO and how to ensure it is vested with sufficient authority. The World Trade Organization has waxed powerful, driving globalization and economic development. The much-vaunted increase in global trade has entailed huge environmental costs. The goal of a powerful WEO, however, remains elusive, even as the need for effective environmental governance become more acute.

3. ENVIRONMENTAL RIGHTS AS HUMAN RIGHTS

The World Environmental Organization proposed by Biermann and Pattberg, if it existed and held sufficient power, could provide a counterweight to the WTO and, in general, to the dominance of economic development over environmental concerns. Assimilating environmental rights into human rights provides an alternative recourse for countering neo-liberalism. The human rights solution has the benefit of relying on currently existing law and institutions to build further environmental guarantees. However, assimilating environmental rights into human rights also severely limits the scope of environmental rights. Thus, despite the seeming promise of expressing environmental rights as human rights, this approach fails to address the scope and scale of the environmental crisis. Rather, humans as the conscious actors on behalf of all evolved life must create law that recognizes the value of the incomparably improbable and irreplaceable evolved world. From this perspective, we understand human rights are properly a sub-category within the rights of the evolved world.

The clearest predecessor to Anton and Shelton's *Environment and Human Rights* and Boyd's *The Environmental Rights Revolution* is Stephen Humphreys' edited volume, *Human Rights and Climate Change*.⁴¹ While focused only on climate change, and not on environmental law more generally, Humphreys' collection marked a historical moment in which human rights and environmental rights were decisively linked on the world stage. Humphreys' volume responded to actions at the United Nations, including the 2008 Human Rights Council resolution on human rights and climate change, and the subsequent series of studies on their linkages.⁴² The political prominence of climate change, and especially its role in international relations and international law, has served to elevate consciousness of the more general link between environmental rights and human rights. By 2012 the Human Rights Council of the United Nations appointed the Wake Forest law professor, John Knox, as Special Rapporteur on human rights and the environment and given him a mandate to develop the legal ties between these fields. That Anton and Shelton have also published a case book on environment and human rights reflects the increasing validity of the linkage of the two fields. Boyd's book musters convincing evidence of the significance of the link in constitutions around the globe. That these books portray historical legal developments is certain. Whether this development is of great consequence is less clear, as the dominance of economic concerns and economic logic show little sign of abating.

³⁸ Biermann and Pattberg, p.270.

³⁹ See the discussion of a World Environmental Organization in Sam Adelman, »Rethinking Human Rights: The Impact of Climate Change on the Dominant Discourse,« in *Human Rights and Climate Change*, ed. by Stephen Humphreys, (New York: Cambridge University Press, 2010), 159-179, p.175.

⁴⁰ Adelman, »Rethinking Human Rights,« in *Human Rights and Climate Change*, p.174

⁴¹ Stephen Humphreys, ed., *Human Rights and Climate Change*, with Foreword by Mary Robinson (New York: Cambridge University Press, 2010).

⁴² Humphreys, *Human Rights and Climate Change*, 3.

The Market or Human Rights

To the extent they are legally recognized, environmental values are usually monetized, a procedure that, as Mark Sagoff has pointed out, inserts market logic as a controlling device into the heart of democratic governance.⁴³ The monetizing of the natural world in order to render it susceptible to economic management is objectionable because it systematically undervalues both the inherent value of evolved life and the abundant plenitude of commonly held resources casually wasted.⁴⁴ Added to these objections is the perverse impact of economic discounting in which the »value« of a far distant danger, such as leaked radiation from long-term nuclear waste storage, is discounted to current rates, making it appear insignificant. In addition to minimizing the monetary cost of the threat, this economic logic supplants political dialogue over whether we as a society want to create such a legacy for future generations. Finally, the dominance of market logic within environmental law is mirrored and multiplied by the dominance of the market over environmental concerns in the policy arena. While some argue that the development of a business sector with stakes in clean technologies and renewable energy does see win-win scenarios for development and the environment, these market sectors remain a small segment of the overall economy. They are also fundamentally driven by the profit motive and themselves incur on-going environmental and social costs.⁴⁵

Inscribing environmental rights within human rights is meant to defeat the drive toward neo-liberal cooptation of environmental goals and the pervasive monetization of environmental values. Richard Hiskes writes in *The Human Right to a Green Future*, the »muscular political vocabulary« of human rights is central to today's political ideas of rights and justice.⁴⁶ Hiskes argues that human rights law (including environmental law) can and should serve as the central law around which globalization is achieved.⁴⁷ The specific laws and cases in Boyd and Anton and Shelton's volumes demonstrate the progress of such theory into constitutional, statutory, and case law. However, it is an exaggeration to believe that human rights provide the pragmatic political language of the contemporary era, the language in which power struggles are waged. There is not a strong legal regime in which human rights can be effectively asserted.⁴⁸ Indeed, the widespread willingness to violate human rights in the name of development and the usual impunity for such violations is one of the sources of environmental crisis.⁴⁹

Such violations could be minimized either by strengthening human rights governance or, as Al Gore suggests, by further integrating environmental costs into standard economic thinking. Gore specifically

⁴³ On the monetization of environmental goods see, Frank Ackerman and Lisa Heinzerling, *Priceless: On Knowing the Price of Everything and the Value of Nothing* (New York: Norton, 2004). On the displacement of democratic political process by market logic see, Mark Sagoff, *The Economy of the Earth: Philosophy, Law, and the Environment* 2nd edition (Cambridge UP, 2008), chapters two and three.

⁴⁴ Debates about the so-called tragedy of the commons continue to rage. The most persuasive and prominent progressive argument is that environmental costs must be integrated into the costs of production. This is expressed as the internalization of so-called 'externalities.' This argument, however, mandates that industrial concerns and consumers pay for using resources that currently are free or very low cost, so that there is considerable highly capitalized push-back against this agenda. The seminal article is Garrett Hardin, »The Tragedy of the Commons,« *Science* 162, no. 3859 (December 1968) 1243-1248. Among the vast literature, the recent book, David Bollier and Burns Weston, *Green Governance: Ecological Survival, Human Rights and the Law of the Commons*, (New York: Cambridge University Press, 2013), provides orientation in the debates and deeply informed insights.

⁴⁵ Hazardous waste created by solar panel manufacturing, birds slaughtered by wind turbines, distortion of global grain prices by the marketing of ethanol, these are just some of the undesirable by-products of the green economy.

⁴⁶ Richard P. Hiskes, *The Human Right to a Green Future: Environmental Rights and Intergenerational Justice* (New York: Cambridge University Press, 2009), 2. In contrast, Sam Adelman remarks that human rights are honored more in the breach than in enforcement and that they are notoriously non-justiciable. See, Sam Adelman, »Rethinking Human Rights: The Impact of Climate Change on the Dominant Discourse,« in *Human Rights and Climate Change*, ed. Stephen Humphreys, (New York: Cambridge University Press, 2010) 159-179, 161.

⁴⁷ Hiskes, 100.

⁴⁸ I intend here to mean human rights claims brought before tribunals as human rights claims and not as some more specifically statutorily recognized right.

⁴⁹ Jon Barnett, »Human Rights and Vulnerability to Climate Change,« in *Human Rights and Climate Change*, ed. Stephen Humphreys (New York: Cambridge University Press, 2010), 257-271.

recommends the reform of the measurement of gross domestic product to account for resource depletion, the externalities of pollution, and the relative equality of income distribution.⁵⁰ Optimizing environmental protections could proceed with both strategies, so that the independence from economics is pursued in tandem with the increased recognition of costs of environmental degradation.

Can Human Rights Adequately Accommodate Environmental Rights?

Environmental rights as human rights means that the rights of the environment exist only to the extent they are co-extensive with some form of service to humanity. Shelton has argued that the areas in which human rights and environmental concerns do intersect suffices as an area for concerted action.⁵¹ However, the severe constraints on environmental concerns are evident. The deep ecology movement, arguably already deeply weakened by the 1992 Rio Summit, which prioritized a right to development, is side-lined when human rights are prioritized.⁵² Thus, for example, Anton and Shelton's book does not even mention the emergent legal theory of ecocide.⁵³ In important ways, inscribing environmental rights within human rights puts limits on the aspiration to value and protect the evolved world.

Environmentalists have frequently advocated the legal recognition of intrinsic rights of the natural world. Aldo Leopold, for example, famously argued for a »land ethic« that recognized inherent rights of other species and of ecological communities to exist. The intrinsic value of the natural world is recognized as well in the preamble to the Convention on Biological Diversity. This widely ratified multi-lateral environmental treaty recognizes »the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components«. ⁵⁴ In a similar spirit, Justice William O. Douglas advocated for a wilderness bill of rights, and wrote in his 1972 dissenting opinion in *Sierra Club v. Morton*, that environmental objects should have standing to sue »for their own preservation.« ⁵⁵

This drive to recognize inherent rights of the natural world reached a new height in Ecuador in 2008 through a constitutional amendment that declared that nature (called Pacha Mama) is a legal person.⁵⁶ The 2010 constitution of Ecuador holds, in article 71, that »Nature, or Pacha Mama, where life is reproduced and created, has the right to integral respect for her existence, her maintenance, and for the regeneration of her vital cycles, structure, functions, and evolutionary processes.« ⁵⁷ The Ecuadoran recognition of legal personhood for nature (article 66) is joined with entitlement to restoration of nature as a right separate from right of recompense for humans with injured property rights, and a mandate for the use of the precautionary principle. In further developments, the 2009 amendment to the Bolivian constitution, which granted important procedural rights for environmental protection, was supplemented in April 2011 by laws that recognized far-reaching rights to »mother nature« and defined natural resources as a blessing.⁵⁸

The Ecuadoran constitutional rights of Pacha Mama were first interpreted by a court on March 30, 2011.⁵⁹ The court ruled that, »[W]e can not forget that injuries to Nature are 'generational damages' which are such that, in their magnitude have repercussions not only in the present generation but

⁵⁰ Gore, *The Future*, p.372.

⁵¹ Anton and Shelton, p. 130-132.

⁵² Bill Devall and George Sessions, *Deep Ecology: Living As if Nature Mattered* (Salt Lake City: Gibbs M. Smith, Inc, 1985).

⁵³ Ecocide, or the destruction of nature, was theorized as a crime in 1996 by Mark Gray. The Supreme court of England and Wales participated in mock trial to develop and showcase the proposed crime. CEOs responsible for developing the Athabasca tar sands were (mock) tried and found guilty in 2011. See the NGO website for reports, erradicatingecocide.com/overview/mock-trial/.

⁵⁴ As quoted in Anton and Shelton, p.123.

⁵⁵ Anton and Shelton, p.124.

⁵⁶ Anton and Shelton, p.124. Other environmental provisions in Ecuador's constitution include a prohibition on genetically modified organisms, a reversal of legal burden of proof in environmental cases so that the accused must prove their actions have not caused the alleged harm, a mandate that uncertainty in law be resolved in favor of Pachamama, and a requirement that urban areas promote non-motorized transportation (Boyd, 70).

⁵⁷ Quoted by Anton and Shelton, p.124.

⁵⁸ Boyd, p.126.

⁵⁹ Decision available on-line at <http://blogs.law.widener.edu/envirolawblog/2011/07/12/ecuadorian-court-recognizes-constitutional-right-to-nature/>, accessed 3/20/13.

whose effects will also impact future generations.« The court quoted Alberto Acosta, President of the Constituent Assembly: »Man can not survive at the margins of nature... The human being is a part of nature, and can not treat nature as if it were a ceremony to which he is a spectator. ...we... must prohibit human beings from bringing about the extinction of other species or destroying the functioning of natural ecosystems.«⁶⁰

What is meant by Pacha Mama in the Ecuadorian constitution is not opened for discussion by Anton and Shelton or Boyd (Anton and Shelton, 124 and Boyd, 70 and 140).⁶¹ The deep contrast with American law, which has recently increased the status of corporate personhood, deserves emphasis.⁶² Indeed, Anton and Shelton devote a mere page and a half in their thousand-page book to discussing what is meant by environment (2-3). Noting the French origin in »*environner*,« (meaning »to encircle«) they write that, »environment can include the aggregate of natural, social and cultural conditions that influence the life of an individual or community« (2). The scope of the environment can be »a limited area or the entire planet« (2). According to the U.S. Environmental Protection Agency, the environment is »the sum of all external conditions affecting the life, development and survival of an organism« (2). Because of the vagueness of the definition and because of the broad variety of actions that can give rise to adverse environmental consequences, Anton and Shelton remark that it is »difficult to establish the limits of environmental law as an independent legal field; indeed they [these features of 'environment'] imply the integration of environmental protection into all areas of law and policy« (3). Anton and Shelton argue, therefore, that environmental law should be a central, unifying field. In fact, so long as »environment« is devoid of inherent meaning, its vagueness contributes to its weakness.

The possibility that something different from mere »that-which-surrounds« is expressed by Pacha Mama is not entertained by Anton, Shelton or Boyd. The measure of this difference is indicated (if not fully explored) by the acknowledgement that Pacha Mama is the Andean earth goddess and therefore that the term motions toward meaning incommensurate with the bland »that which surrounds.«⁶³ The preamble to the Ecuadoran constitution evokes a new form of society: »We decided to construct a new form of citizen coexistence, in diversity and harmony with nature, to reach 'el buen vivir, el *sumak kawsay*.'«⁶⁴ These innovations are characterized by Acosta as a »'conceptual rupture' with the dominant development logic of the previous six decades.«⁶⁵ While it is unrealistic to expect Ecuador and Bolivia to derail neo-liberal globalization, nonetheless we can agree with Arturo Escobar, the anthropologist of development

⁶⁰ Translated by Erin Daly, H. Albert Young Fellow in Constitutional Law, in his blog post, »Ecuadorian Court Recognizes Constitutional Right to Nature, at <http://blogs.law.widener.edu/envirolawblog/2011/07/12/ecuadorian-court-recognizes-constitutional-right-to-nature/>)

⁶¹ Arturo Escobar examines the extent to which these constitutional and legal developments chart an alternative development path to neoliberalism; see his, »Latin America at a Cross-Roads,« *Cultural Studies* 24, no.1 (January 2010), 1-65. See also the response articles, Juan Ricardo Aparicio, »Reply to Arturo Escobar's Latin America at a Cross-Roads,« *Cultural Studies* 25, no.3 (2011) 439-445; Charles R. Hale, »Comment on Arturo Escobar,« *Cultural Studies* 25, no.3 (2011) 459-463; Alejandro Grimson, »Reply to Arturo Escobar,« *Cultural Studies* 25, no.3 (2011) 446-449; Eduardo Restrepo, »(Un)Thinking Modernity and the Burdens of Difference,« *Cultural Studies* 25, no.1 (2011) 432-438; David Slater, »Latin America and the Challenge to Imperial Reason,« *Cultural Studies* 25, no.3 (2011) 450-458; and Cristina Rojas, »Latin America, Turning Left or Crossing Multiple Roads,« *Cultural Studies* 25, no.3 (427-433).

⁶² Recall Gore's criticism of this Powell-court induced elevation of the corporation in American law. Discussed above.

⁶³ Nature's etymological root is the Latin *natura*, meaning to birth. This root meaning, however, leaves no trace in contemporary law. The seminal history of this covering-over is Carolyn Merchant, *The Death of Nature: Women, Ecology and the Scientific Revolution* (1980), with new preface (Harper & Row: 1990). On Ecuadoran and Bolivian constitutional innovations see, Catherine Walsh, »Development as Buen Vivir: Institutional arrangements and (de)colonial entanglements,« *Development* 53, no.1 (2010), 15-21. Walsh perceives a worrisome rise of the state along with the biocentric constitutional provisions. See also, M. Arsel, N.A. Angel, »'Stating' Nature's Role in Ecuadorian Development: Civil Society and the Yasuni-ITT Initiative,« *Journal of Developing Societies* 28, no.2 (2012) 203-227.

⁶⁴ As quoted in English in Catherine Walsh, »Development as 'buen vivir': Institutional Arrangements and (de)colonial Entanglements,« *Development* 53, no.1 (2010), 15-21, p.18

⁶⁵ Alberto Acosta, »El Buen Vivir, una oportunidad por Construir,« *Ecuador Debate*, no. 75 (2009) 33-48, p. 39. See also, Eduardo Gudynas, *El mandato ecológico. Derechos de la naturaleza y políticas ambientales en la nueva Constitución*, (Quito: Abya-Yala, 2009). Walsh, p.20, however, suggests this program is a humanized neo-liberalism, deeply similar to Integral Sustainable Development.

theory, that these legal innovations point the way to an alternative to Euro-modernity.⁶⁶ Inserting Pacha Mama into constitutional law echoes, as well, the aspirations toward eco-cosmology advanced by the Yale Forum.

The cosmological and species implications of deep time parallel the extra-human and extra-economic implications of Pacha Mama. Whether expressed in theological or scientific terms, the awesome scale of time and of creative forces far beyond the control or relevance of humanity is evoked. This context of deep, geologic, and cosmological time needs to be expressed in legal systems. The Latin American examples provide inspiration for law that acknowledges humanity as the avatar of evolved life in the cosmos and as bearing unique responsibility for the fate of all evolved life.

The concept of intergenerational justice is another step —weak though it is—toward a legal expression of humanity as the avatar of evolved life. The legal concept of intergenerational justice was first theorized only in the 1970s.⁶⁷ The obligation to preserve evolved life arose as a response to the newly developed destructive capacity of the post-World War II industrialized world. Edith Brown Weiss called for this historically emergent responsibility to be met with a »Declaration of the Planetary Rights and Obligations to Future Generations.«⁶⁸ Such inter-generational continuity, however, must overcome the much celebrated individualism of modernity.⁶⁹

The *Minors Oposa* case, decided in the Philippines in 1994, is the pre-eminent enforcement of intergenerational rights to date. In this suit Philippine minors formed a class to protect virgin tropical rainforests from state-granted lumber concessions (Anton and Shelton, pp. 92-95).⁷⁰ Plaintiffs successfully sought to enforce rights under the 1987 constitutional amendment that recognized a right of the people of the Philippines to a balanced ecology and recognized the concepts of inter-generational responsibility and intergenerational justice. Meanwhile, legal scholars in the United States have debated theories of intergenerational rights (also called, the rights of future generations) for at least forty years, but these theories have not crystallized into applicable law on the federal level. The (now abandoned) plan for nuclear waste storage at Yucca Mountain had certified storage of waste for up to one million years.⁷¹ This astounding regulatory reach into the future (homo sapiens have only inhabited the Americas for approximately 14,000 years) exhibits a federal concern for responsibility to future generations which is nowhere else codified. Some states such as Hawaii, however, have an expansive public trust doctrine that carries intergenerational consequences.⁷² Boyd notes that at least forty states around the world include intergenerational rights in their constitutions.⁷³

⁶⁶ Escobar, »Latin America at a Cross-Roads,« *Cultural Studies* 24, no.1 (January 2010), 1-65.

⁶⁷ Edith Brown Weiss pioneered this field with her much debated, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (New York: United Nations University, 1989). More recent monographs include Laura Westra, *Environmental Justice and the Rights of Unborn and Future Generations: Law, Environmental Harm, and the Right to Health* (Sterling, VA: Earthscan Press, 2008), and Richard P. Hiskes, *The Human Right to a Green Future: Environmental Rights and Intergenerational Justice* (New York: Cambridge University Press, 2009). See also, Burns H. Weston, »The Theoretical Foundations of Intergenerational Ecological Justice: An Overview,« *Human Rights Quarterly* 34 (2012), 251-266 and Burns H. Weston and Tracy Bach, »Recalibrating the Law of Humans with the Laws of Nature: Climate Change, Human Rights and Intergenerational Justice« (Vermont Law School & University of Iowa: Climate Legacy Initiative, 2009), available at http://www.vermontlaw.edu/Academics/Environmental_Law_Center/Institutes_and_Initiatives/Publications-x4059.htm (accessed 4/16/13).

⁶⁸ Brown Weiss, *In Fairness to Future Generations*, 345 & 349.

⁶⁹ For example, see Marie-Cécile and Edmond Ortigues, *Oedipe Africain* 3rd edition (Paris: l'Harmattan, 1984), e.g., 75, 79, 80-83, where they describe the immersion of Wolofs, Serer and Lebous in successive waves of generations and the process of individuation required to become a modern individual; and as discussed in Alice Bullard, »Oedipe Africain, A Retrospective,« *Transcultural Psychiatry* 42, no. 2 (June 2005), 171-203.

⁷⁰ Oliver A. Houck, *Taking Back Eden: Eight Environmental Cases that Changed the World* (Washington, DC: Island Press, 2010), 43-60, gives a vivid account of the *Minors Oposa* case.

⁷¹ See, <http://www.epa.gov/rpdweb00/yucca/> (accessed March 28, 2013), follow links to »fact sheet« and see »standards.« Nuclear waste is not discussed in Anton and Shelton.

⁷² Anton and Shelton, p.36. The state as owner and guardian of land was also grounds for the landmark climate change case, *Massachusetts v. the EPA*. See discussion in Dinah Shelton, »Equitable Utilization of the Atmosphere: A Rights-Based Approach to Climate Change?« in *Human Rights and Climate Change*, ed. Stephen Humphreys (New York: Cambridge University Press, 2010), 91-125, p.111. This case is not in the Anton and Shelton collection.

⁷³ Boyd, p. 70.

How, then, should we view this historically emerging link of environmental rights to human rights? This link offers some compensation for the absence of a World Environmental Organization. It takes advantage of existing human rights laws and institutions and, to some at least, seems to augment the power of the environmental agenda. Advocates of the human rights-environmental rights linkage rely on a conviction that human rights can trump the logic of neo-liberalism. However, it is a mistake to think that human rights law is more powerful than the law of property and of trade. Without effective international enforcement via a World Environmental Organization environmental governance will remain weak.

The inadequacy of human rights to this particular crisis, however, is manifest when the difference of evolved life from human life, and of Pacha Mama from mere 'that which surrounds' are contemplated. The vast scale of the global environmental crisis reveals that human rights should be inscribed within a cosmological, deep time appreciation of the evolved world. Pacha Mama's rights as expressed in Bolivian and Ecuadoran law are the first examples of such eco-cosmological law. Intergenerational rights – a relatively weak motion toward temporal responsibilities -- are only now emerging. For the most part, the undomesticated evolved world remains outside of linked human and environmental rights just as deep time remains outside of the logic of human law. Yet, humanity is uniquely responsible for the threat to the survival of all evolved life. Human rights, as valuable as they are, are inadequate to expressing humanity's responsibility for the fate of evolved life.

4. ADAPTATION TO CLIMATE CHANGE: DEVELOPMENT REDUX

One of the biggest lessons from Gerrard and Fischer Kuh's *Law of Adaptation to Climate Change* is learned up-front. There is no hint in this text of the authors' faith that humans will successfully govern to prevent climate change. The failure of the U.S. Congress in 2009 to enact the Waxman-Markey carbon cap-and-trade bill carried forward to a failure at the international U.N. Framework Convention on Climate Change negotiations in Copenhagen. Comprehensive laws aimed at progressive reductions of green house gas emissions at this point are stalled if not moribund.⁷⁴ Even with successful aggregate reduction of green house gas emissions, several decades must elapse before climate benefits will appear, and even then, the climate will continue to change for several more decades.⁷⁵ Adaptation is the order of the day.

Gerrard and Fischer Kuh have produced a book seemingly intended to guide policy makers and legal counsel in understanding current law, to provide reasonably comprehensive descriptions of likely impacts of climate change, and to describe how current governments, administrative bodies and market mechanisms are acting to meet these challenges. This cornucopia of legal and technocratic details will usefully serve as a type of encyclopedia of adaptation challenges and planning, or as a reference book for those looking for broad-scale orientation in various specifics of climate change adaptation. It is also an illustration of how merely depicting law-as-it-is occludes the politics that produce it. The focus on details combined with the disclaimer that adaptation is as yet fragmentary in nature combine to create a text devoid of an overt thesis. Nonetheless, through the myriad details, an over-riding truth emerges: significant adaptation programs are deeply dysfunctional, so much so, that overall one can argue that adaptation efforts have been maladaptive. Adaptation is, in essence, an effort to preserve the status quo, including development as usual.

As Gerrard and Fischer Kuh write, »mitigation laws are like a patchwork of scraps that are barely sewn together.«⁷⁶ However, adaptation laws cannot even be characterized as patchwork, rather »there is little cloth, and the existing scraps are hardly linked.«⁷⁷ Contained within the overt acquiescence to ad-

⁷⁴ The Durban Platform for Enhanced Action created in 2011, aims to establish a new binding emissions treaty by 2015, with a target date of implementation in 2020. If the goals are reached, this treaty will cover 100 per cent of emissions. See, <http://www.un.org/wcm/content/site/climatechange/pages/gateway/the-negotiations/durban> (accessed May 3, 2013).

⁷⁵ (Gerrard and Fisher Kuh, eds., *Law of Adaptation*, p. xxi.

⁷⁶ *Law of Adaptation*, p.11.

⁷⁷ *Law of Adaptation*, p.11.

adaptation is a subtext that there is no coherence to adaptation, and because there is no coherence, there is no overall meaning or message carried with it. This is of course nonsense. The stakes are very high, both when adaptation is emphasized at the expense of mitigation, and when adaptation strategies are dysfunctional. Without adequate mitigation efforts, adaptation is itself bound to fail. Al Gore notes in *The Future*, if we focus on adaptation while foregoing mitigation, »the consequences will be so devastating that adaptation will ultimately prove to be impossible in most regions of the world.«⁷⁸ Gore gives an example of the forecasted »almost unimaginably deep and prolonged drought« that will afflict »a wide swath of highly populated and agriculturally productive regions, including all of Southern and south-central Europe, the Balkans, Turkey, the southern cone of Africa, much of Patagonia, the populated southeastern portion of Australia, the American Southwest and a large portion of the upper Midwest, most of Mexico and Central America, Venezuela and much of the northern Amazon Basin, and significant portions of Central Asia and China.«⁷⁹ The vast fire-storms that have plagued Australia and the American West in recent years provide another sobering example.⁸⁰

Adaptation as a strategy to confront climate change is bound to fail insofar as its chief aim is to preserve the status quo; that is, to preserve the state of affairs that generates vast amounts of green house gases that are themselves producing climate change. As described by Robert Fischman and Jillian Rountree in their chapter on Adaptive Management, adaptation as a governance technique first and foremost resists the impacts of climate change in order to preserve the status quo.⁸¹ Second, adaptation aims to ensure that particular locales can absorb environmental disturbances, that they can change and still remain functional, with the same basic structure, identity, and feedbacks.⁸²

The fundamental collusion of adaptation with the economics that are producing climate change does not imply that all individual instances of adaptation are poorly conceived or without merit. Indeed, in *Human Rights and Climate Change*, Humphreys argues that adaptation projects can address immediate human rights violations and are underfunded in comparison with mitigation.⁸³ However, in the aggregate and by design adaptation will reproduce the economic conditions themselves productive of the contemporary environmental crisis.

Even this irresolute and ineffective adaptation methodology is greatly stymied in U.S. politics. Robert Glicksman's chapter, »Governance of Public Lands, Public Agencies and Natural Resources,« details a small victory over the climate-change-denying Congress achieved through the establishment by the executive branch of the Interagency Climate Change Adaptation Task Force (ICCATF) in 2009.⁸⁴ However, this adaptation planning must be pursued without any congressional funding or implementing legislation. Vicki Arroyo and Terri Cruce's chapter, »State and Local Adaptation,« presents the relative vitality of state actions.⁸⁵ However, the many state and local projects detailed by Arroyo and Cruce are insufficiently developed, and far too small in number and size to compensate for lackluster federal leadership. Despite the efforts of a great number of dedicated professionals and volunteers, the programs are anemic, underfunded, and of unproven value.⁸⁶ If adaptation strategies are to be welcomed, as Gerrard and Fischer Kuh imply, this portrait of existing U.S. adaptation law is dismal indeed. The overtly maladaptive dimensions to adaptation are even more so.

⁷⁸ Gore, *The Future*, p. 304.

⁷⁹ Gore, *The Future*, p. 304.

⁸⁰ Australian Climate Commission, *The Angry Summer*, February 2013 available at <http://climatecommission.gov.au/report/the-angry-summer/> (accessed 3/29/13). Mark Hudson, *Fire Management in the American West: Forest Politics and the Rise of Megafires* (University Press of Colorado, 2011).

⁸¹ *Law of Adaptation*, p. 24.

⁸² *Law of Adaptation*, p. 25.

⁸³ Stephen Humphreys, »Introduction: Human Rights and Climate Change« in *Human Rights and Climate Change*, ed. by Stephen Humphreys, (New York: Cambridge University Press, 2010), 1-34, 51.

⁸⁴ *Law of Adaptation*, pp.447-48.

⁸⁵ *Law of Adaptation*, p.570.

⁸⁶ *Law of Adaptation*, p. 593.

Hydraulic fracturing and biofuels are adaptive strategies that place enormous stress on water supplies, and yet water supplies are already under threat from overconsumption and climate change. Dry states will become drier, groundwater aquifers will be tapped out or polluted by hydraulic fracturing, population will increase, hence increasing demand, and agriculture will require increasing amounts of irrigation.⁸⁷

Energy production and water scarcity dove-tail in the fields of hydraulic fracturing, and ethanol and biofuel production.⁸⁸ Burning these fuels, of course, contributes to green house gas emissions. Meanwhile, extraction and production of these fuels directly threaten water supplies. Shale gas extraction requires from two to eight million gallons of water, laced with about 0.5 percent chemical proppants (104-05). The treatment or storage of this water is controversial. In 2005 an amendment to the Safe Drinking Water Act exempted hydraulic fracturing from coverage. In both the 111th and 112th Congresses legislation was introduced to repeal this exemption, but this effort has not been successful. Meanwhile Congress dithered by commissioning a study from the EPA to determine whether hydraulic fracturing poses an environmental threat rather than re-imposing Clean Water Act governance over the industry.⁸⁹ Even if the proppant-laced water were covered by environmental legislation, it is not clear that such water can be made safe. It might be possible to reuse the water to drill other wells, which might be practical if it did not require transporting the water long distances (105-06).

Ethanol and other biofuels also pose risks to water supplies. Producing biofuels alters the agricultural mission of farmers, leading them to devote crop water to fuel rather than to food. During the heating and cooling in the biorefinery four gallons of high-quality water are required for the production of one gallon of fuel (106). Moreover, high levels of ethanol additives to fuel mixtures increases the solubility of toxic gasoline compounds, and facilitates the migration of these chemicals into the drinking water supply (108). Such negative feed-back loops are double losses for the environment and indicate maladaptive practices rather than successful adaptation.

The contemporary activities in the Arctic provide further examples of maladaptive responses to climate change. While much discussion of the Arctic focuses on the melting of the polar cap as an indicator of climate change's advance and as a herald of rising sea levels, the counter-story is that the Arctic is now open for business.⁹⁰ Linda Malone's chapter on »Human Security and Military Preparedness,« captures this new commercial importance, and states with military might are ready to deploy to back their territorial and mineral rights claims. Shipping lanes through the polar cap, oil and gas extraction, and tourism will all increase as the ice continues to melt. There are an estimated 90 billion gallons of oil and 1,670 trillion cubic feet of gas in the Arctic region according to the U.S. Geological Survey (cited by Malone, 857). Russia, Canada, the United States, Norway, Denmark and Finland are vying for territory and rights to develop these resources. The newness of commerce in the Arctic is underlined by the relative powerlessness of its government, the Arctic Council, which lacks authority to pass legally binding laws and lacks any ability to enforce laws or regulations.⁹¹ Indeed, the prior insignificance of the Arctic is demonstrated by the fact that 2011 was the first time a U.S. Secretary of State attended a meeting of the Arctic Council. Now states that are mere ad hoc observers to the Council, including China, the EU, Italy, Japan and South Korea, are campaigning for full membership (860). Currently Russia is positioned to defend its extensive (1.2 million square kilometers) Arctic territorial claim with a fleet of eighteen icebreakers and a \$7 billion expansion of the port in Murmansk (856). Canada is defending its Arctic claims with a new fleet of F-35 jets and is also constructing a new Arctic base (858).

With the territorial and commercial competition for the Arctic heating up, the drive to preserve the polar ice is inevitably weakened. While Malone does not write of the comparative power of environ-

⁸⁷ See, generally, Robert Adler in chapter three, »Managing Water Supplies,« and by Benjamin Houston and Noah Hall in chapter four, »Managing Demand for Water,« in *Law of Adaptation*. See specifically, p.56-57.

⁸⁸ Houston and Hall in *Law of Adaptation*, pp.104-108.

⁸⁹ For the current update from the EPA see. <http://www.epa.gov/hfstudy/> (accessed March 28, 2013).

⁹⁰ Keith Gesson, »Polar Express: A Journey Through the Melting Arctic with Sixty-odd Thousand Tons of Iron Ore,« *The New Yorker* (December 24, 2012), 98-117.

⁹¹ *Law of Adaptation*, p. 860.

mentalists and the oil and gas industries, clearly adaptation to climate change—allowing the commercial exploitation of the Arctic— is the governments’ preference over mitigation. This (mal)adaptation will include substantial polluting commercial exploitation in the previously ice-bound Arctic and feed more hydrocarbons into the greenhouse gas pipeline.

Adaptation in international law is expressed via the United Nations Framework Convention on Climate Change (UNFCCC) and its subsidiary agreements. The UNFCCC, now twenty years old, initially focused primarily on the mitigation of climate change. The shift in emphasis to adaptation represents the defeat (one would hope only partial and temporary) of climate change mitigation. Both mitigation and adaptation are legally framed within the market-based, neo-liberal »right to development« as expressed in UNFCCC Article 3(4), »parties have a right to, and should, promote sustainable development« (605). Dominating the environmental agenda since the 1980s, the neo-liberal emphasis on development, even as mitigation and adaptation are pursued, expresses a deep tension, if not an impossibility of conflicting goals within the very treaty designed to halt climate change.⁹²

International adaptation is also caught in the bind of U.N. politics, which are state-to-state, and not citizen-based. The UNFCCC treaty as well as its subsidiary agreements (most famously the Kyoto Protocol, but numerous others as well) do not directly reach individual citizens around the world. Rather, the programs and funding established are funneled through states. State-based injustices, such as the oppression of minority peoples or gender-based biases, are influenced by the U.N. climate change programs only with great difficulty. Good governance mechanisms, most notably those established via the UNFCCC REDD mechanisms, aim to ensure the inclusion of *le menu peuple* in mitigation and adaptation strategies, and yet the implementation of these mechanisms is difficult at best.⁹³ The process for obtaining mitigation funding, as well, requires consultation with local people, but it does not require that the goals supported at the local levels be prioritized or even included in the funded projects.⁹⁴

David Freestone, writing in Chapter 17 of *The Law of Adaptation*, describes the UNFCCC with disregard for these nuances. What he does provide is a portrait of the legal evolution of the UNFCCC from a treaty focused on climate change mitigation to one focused on adaptation. Other entities, includ-

⁹² These policies ascribe to developmentalist logic, and fall-in with what Escobar describes as neo-developmentalism in contrast to post-developmentalism, »By neo-developmentalism I mean forms of development understanding and practice that do not question the fundamental premises of the development discourse of the last five decades, even if introducing a series of important changes (Escobar 1995, 2009). By post-development, I mean the opening of a social space where these premises can be challenged, as some social movements are doing.« Escobar, 2010, p.20.

⁹³ REDD+ (Reducing Emissions from Deforestation and Degradation) provides explicit guidelines for good governance in <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>, 26. These include governmental transparency, respect for knowledge and rights of indigenous and local peoples, full and effective participation of relevant stakeholders including indigenous peoples and local communities, and respect for conservation and biodiversity. Strategies of governance of daily life that dynamically forms environmentally active citizens is explored in Arjun Arawal, »Environmentality: Community, Intimate Government and the Making of Environmental Subjects in Kumaon, India,« *Cultural Anthropology* 46, no.2 (April 2005), 161-190.

⁹⁴ The mandate for local participation in decisions with environmental impact is clearly established in the Rio Declaration, Principle 10, »Environmental issues are best handled with participation of all concerned citizens, at the relevant level.« »[Public] participation in decision-making is of key importance in efforts to tackle climate change. ... The right to participation in decision-making is implied in article 25 of the International Covenant on Civil and Political Rights which guarantees the right to 'take part in the conduct of public affairs'«. Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights (Jan.15, 2009), U.N. Doc. A/HRC/10/61, at para. 79, available at <http://www.ohchr.org/Documents/Press/AnalyticalStudy.pdf>. Elizabeth Ferris, »Protection and Planned Relocations in the Context of Climate Change,« *Legal and Protection Policy Research Series*, UN High Commission on Refugees, Internal Displacement Division, (Geneva: UNHCR, 2012), calls on lessons learned from displacement for development projects to inform climate displacement processes. Local participation in resettlement planning is emphasized. Community based risk assessment is highly developed. For example, see the Brookings-LSE collaborative project on displacement that has sponsored many scholarly studies focused on »bottom-up« evaluation of climate change risks and bottom-up analysis of costs and benefits of relocation. See, <http://www.brookings.edu/about/projects/idp>. See as well the projects of WeADAPT, at WeAdapt.org, and the Nature Conservancy 3D modeling initiative, at <http://www.nature.org/ourinitiatives/regions/asiaandthepacific/solomonislands/explore/choiseul-3d-modeling.xml>. However, there is no mandate to fund projects conceived at the local level.

ing the World Bank, the European Union, and the United Nations Environmental Program (UNEP) have followed suit in changing their emphasis from mitigation to adaptation. The World Bank Economics of Adaptation to Climate Change Study estimates that the costs of adaptation per year between 2010 and 2015 will be from \$70 to \$100 billion (615). This same study notes, without irony, that the best adaptation strategy is development, because development allows economic diversification and therefore increases resilience. Freestone remains silent on the increased greenhouse gas emissions produced by this accelerated drive to development, and on the increased opportunities for the World Bank in financing accelerated development.⁹⁵ At the very least we must recognize that accelerated development in the name of adaptation removes us ever further from the goal of climate change mitigation.

Michelle Leighton's »Population Displacement, Relocation, and Migration,« Chapter 20 of *The Law of Adaptation*, sounds the familiar battle cry of imminent disaster for which states are not prepared (719). This disaster will fall disproportionately on the less developed world. Climate displacement will likely affect one in nineteen residents of developing countries, while only impacting one in 1,500 residents of OECD countries (693). Estimates of total numbers likely to be displaced range widely from 2.3 million per year to 62 million per year (693). Refugee law will not accommodate these individuals, as under refugee law climate migrants appear to be mere economic migrants (705).⁹⁶ Meanwhile, states that lose all or most of their territory due to sea level rise must negotiate for permanent residence elsewhere, as the Carteret Islanders did with Bougainville in Papua New Guinea. This negotiation, not discussed in Leighton's chapter, is notable as a people-to-people solution rather than an agreement between states. Indeed, the migration of the Carteret Islanders has been accomplished through public campaigning for funds and it was made possible in large part by the donation of church land.⁹⁷ Such local initiatives to settle displacement crises do not make it into Leighton's state-centered analysis. Locally driven and negotiated resettlement, however, deserves greater recognition and should be allocated international funding because state-led resettlement is typically plagued by corruption.⁹⁸

Abundant evidence in Gerrard and Fischer Kuh's massive tome points to the maladaptive realities of adaptation programs. Adaptation is piecemeal, provisional, and frequently commercialized; it has become a money-making creature of the market-place. Primary examples of this mal-adaptation include the World Bank policy to promote increased rates of development as a means of fostering adaptation, the commercialization and militarization of the Arctic, and the negative impact of hydraulic fracturing and biofuels on water supplies. Taking perspective on the adaptation strategies in this book, however, reveals a troubled agenda that is absorbing huge amounts of environmental experts' time and energy. Adaptation builds upon the failed policies of climate change mitigation and there is no basis to expect it to be more successful. Adaptation moreover aims to preserve the status quo economic order, thereby guaranteeing continued or even accelerated environmental degradation.

⁹⁵ On the unlikelihood of increasing development and reducing green house gas emissions see Humphreys, *Human Rights and Climate Change*, 23, note 50. Not mentioned in this chapter, or indeed in this book, is that environmental organizations have campaigned for the World Bank to perform carbon accounting on its loans, as the environmental organizations point out that the mitigation and adaptation projects financed by the Bank are outweighed by the financing of new coal fired power plants and other high emissions development projects.

⁹⁶ A leading voice in this advocacy is Walter Kälin, an expert on the rights of internally displaced peoples. See his »Guiding Principles on Internal Displacement, Annotations,« *Studies in Transnational Legal Policy*, no. 38, (Washington DC: American Society of International Law, 2008).

⁹⁷ Alyssa Johl, »Local Adaptation and Climate Displacement: Carteret Islanders,« manuscript. Jennifer Redfearn's film, *The Sun Come Up* (2011) documents this migration. At least some Carteret Islanders have voiced strong criticisms of this film. In the U.S. it was nominated for an Academy Award.

⁹⁸ Displacement for development projects, most notably for dams, typically does not adequately replace lost land and livelihoods. See *World Commission on Dams, Dams and Development: A New Framework for Decision-Making* (Sterling, VA; Earthscan Press, 2000), 102-130

CONCLUSION

The earth has existed for 4.54 billion years; biologically modern humans have been around for only 200,000 years. 99.9% of the entire time earth has existed, it existed without modern humans. In the mere 200 years of industrialized capitalism our species has developed into a threat to the life-sustaining systems of our planet. Writing law and forming governance adequate to confront this crisis is a daunting task that demands detailed laws around the world based in a barely emergent theory of species-governance. This review has delved into particulars that demonstrate how existing environmental governance is plagued by weaknesses and co-opted by neo-liberalism. The substantial and diverse expertise of numerous environmentally dedicated individuals has produced certain in-roads and victories, but not a coherent edifice.

Incremental gains, small islands of preserved ecosystems, and the hope that a confluence of technological innovation, good governance and heightened intelligence will allow the thriving of our evolved world may generate some optimism. But global success will require much more substantive legal, ethical, and economic reform at the global level. The blueprint derived from more optimistic legal scholarship suggests a World Environmental Organization could play a significant role in moving reforms forward. Another strategy is to align environmental rights with human rights. This consolidated agenda will need to displace neoliberal free-trade law from its position of primacy in international governance. The counter-story, however, is that environmental experts' energy is increasingly invested in piece-meal adaptation strategies, commercial enterprises increasingly see profit in climate change (as in the Arctic), and a national security agenda biases or even balkanizes climate change management. Al Gore's lament that strong leadership is absent reflects the current eclipse of the environmental agenda on the national and international stage, even as activists, experts, and professionals battle to make progress to reduce carbon emissions. This is a field in which scholarship and theory have advanced faster than the political capacity for reform. Law that recognizes the power and the responsibility of the human species as a geological and evolutionary force is needed. The difficult task ahead of us is to develop law that recognizes the cosmological specificity of evolved life on earth and that vests humans with the responsibility to respect and protect the evolved world.⁹⁹

SAŽETAK

Zemlja postoji već 4,54 milijardi godina; biološki moderni ljudi su okolo za samo 200.000 godina. 99,9% od ukupnog vremenskog Zemlji postoji, ona postoji bez modernih ljudi. U više od 200 godina industrijalizirane kapitalizma naša vrsta razvila u prijetnju sustava za održanje života na našem planetu. Pisanje zakona i formiranje vladajućih institucija adekvatno suprotstaviti ovu krizu je težak zadatak koji zahtijeva međunarodne pravne režime sjedištem u nastajanju teorije ljudske vrste-upravljanja koji priznaje prava dnevnoj zemlji. Ovaj esej istražuje kako postojeća vlast okoliš je udario po slabosti i kooptiran od neoliberalizma. Brojni ekološki posvećen pojedina su ucrtana putove prema naprijed, ali mi još uvijek nemamo suvislu građevinu politike i prakse koje će riješiti krizu na okoliš. Obećavajućih nastajanju veza između prava okoliša i ljudskih prava zahtijeva poluge iz bogatije konceptualizacije okoliš za pružanje učinkovite upravljanja okolišem. Težak zadatak pred nama je razviti zakon koji priznaje prava evoluirao život na Zemlji i da prsluci ljudi s odgovornošću da poštuju i štite evoluirala svijet.

⁹⁹ That private decisions and daily practices are fundamental to environmental renewal is argued in Peter Newell, »Human Rights and Corporate Accountability,« in Human Rights and Climate Change, ed. Stephen Humphreys (New York: Cambridge University Press, 2010), 126-158, 128

Economic- and Ecohistory
Ekonomska i ekohistorija

Journal for Economic History and Environmental History

Časopis za gospodarsku povijest i povijest okoliša

History and Sustainability
Povijest i održivost

Editors / urednici

Hrvoje Petrić, University of Zagreb

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Volume XI / Number 11

Zagreb - Samobor 2015

ISSN 1845-5867

UDK 33 + 9 + 504.3

Publishers / Nakladnici:

Društvo za hrvatsku ekonomsku povijest i ekohistoriju
Society for Croatian Economic History and Environmental History
Ivana Lučića 3, HR - 10000 Zagreb
tel.: +385/1/4092-148, fax: +385/1/4092-879
sites.google.com/site/ekoekohist/

Izdavačka kuća Meridijani
p.p. 132, 10430 Samobor
tel.: 01/33-62-367, faks: 01/33-60-321
e-mail: meridijani@meridijani.com
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Article's UDC markups / UDK oznake članka:

Ivica Zvonar

Layout / Prijelom:

Saša Bogadi

Journal directors / Za nakladnike:

Petra Somek, Hrvoje Petrić

ISSN 1849-0190 (Online)

ISSN 1845-5867 (Tisak)

Print by / Tisak:

Bogadigrafika, Koprivnica 2015.

Mailing addresses / Adresa uredništva:

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Print supported by Ministry of science, education and sport of Republic of Croatia and Koprivnica-Križevci county / Tiskano uz potporu Ministarstva znanosti, obrazovanja i športa RH i Koprivničko-križevačke županije

Cover / Na naslovnici:

Brus Sluice

Ekonomsku i ekohistoriju referiraju:

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