

## LEOPOLD'S LAST TALK

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*Abstract:* During the last decade of his life, Aldo Leopold (1887–1948) delivered more than 100 conservation talks to various popular, professional, and student audiences. In them, he set forth plainly the central elements of his conservation thought. By studying the extensive archival records of these talks one sees clearly the core elements of Leopold's mature thinking, which centered not on specific land-use practices (good or bad), but instead on what he saw as deep flaws in American culture. Leopold's sharp cultural criticism—more clear in these talks than in his lyrical, muted classic, *A Sand County Almanac*—called into question not just liberal individualism but central elements of Enlightenment-era thought. This article distills the messages that Leopold repeatedly presented during his final years. It clarifies the messages by situating Leopold's thought within long-running philosophic discussions on the nature of life, the limits on human knowledge, standards of truth, and the origins of value. For Leopold, conservation could succeed only if it challenged prevailing cultural understandings and pressed for specific, radical change. The now-stymied environmental movement has never taken that advice to heart.

I.	THE TALK.....	242
	A. The land as community.....	244
	B. A community can be more or less healthy.....	246
	C. Land health as the conservation goal.....	248
	D. Radical change .....	250
II.	SITUATING LEOPOLD'S CLAIMS .....	254
	A. Human exceptionalism and liberal autonomy .....	255
	B. The reach of human knowledge .....	259
	C. An organic whole, or collection of parts? .....	262
	D. Standards of truth, and the need for action .....	265
	E. A good that transcends preferences.....	268
III.	A RADICAL STANCE .....	272
IV.	CONCLUSION: A NEW DIRECTION? .....	278

The career of conservationist Aldo Leopold took an

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important turn in the 1920s when he moved from the American Southwest with its expansive public lands to central Wisconsin, a region of fragmented land parcels mostly held in private hands.<sup>1</sup> The arid Southwest was more ecologically sensitive than Wisconsin and its scars of human land abuse were more vivid. Yet Wisconsin too was a place where, to the trained eye, humans were failing at what Leopold termed “the oldest task in human history: to live on a piece of land without spoiling it.”<sup>2</sup> The challenge in Wisconsin, as Leopold saw things, was to find mechanisms to compel, induce, or cajole private landowners to use their lands conservatively—in ways that kept the lands fertile and productive for generations. For the next quarter century—until his death in 1948—Leopold searched for ways to meet that challenge, in the process digging more deeply into the human plight in nature than any American before him, and perhaps since.

In his many writings, Leopold probed all aspects of that broad cultural and ecological movement then known as conservation, paying special attention to the sagging plight of private farms and farm landscapes.<sup>3</sup> Over his last decade he

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1. Leopold's life is recounted most ably in CURT MEINE, *ALDO LEOPOLD: HIS LIFE AND WORK* (1988). The fullest single treatment of Leopold's evolving conservation thought, covering his scientific understandings, philosophic groundings, and cultural criticism, is JULIANNE LUTZ NEWTON, *ALDO LEOPOLD'S ODYSSEY* (2006).

2. ALDO LEOPOLD, *Engineering and Conservation, in THE RIVER OF THE MOTHER OF GOD AND OTHER ESSAYS BY ALDO LEOPOLD* 249, 254 (Susan L. Flader & J. Baird Callicott eds., 1991) (1938) [hereinafter RMG].

3. As noted below, Leopold is best remembered for a single volume, ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* (1949), which appeared the year after his death. The book represents only a small portion of his literary record, although it deserves primacy of place because it lyrically presents his aesthetic sensibilities and much of his cultural criticism and mature conservation thought. A similar volume of short writings by Leopold appeared five years after his death, edited chiefly by his son Luna, which emphasized Leopold's outings and hunting exploits early in his professional career: ALDO LEOPOLD, *ROUND RIVER: FROM THE JOURNALS OF ALDO LEOPOLD* (Luna Leopold ed., 1953). An indispensable collection of Leopold's essays and articles is RMG, *supra* note 2, which includes at pages 349-370 an extensive bibliography of Leopold's published writings. That collection is usefully supplemented by a later one that also includes writings never published during Leopold's lifetime, including critical essays exploring his normative goal of land health. See ALDO LEOPOLD, *FOR THE HEALTH OF THE LAND: PREVIOUSLY UNPUBLISHED ESSAYS AND OTHER WRITINGS* (J. Baird Callicott & Eric T. Freyfogle eds., 1999) [hereinafter FHL]. Also helpful is a collection of early writings by Leopold dealing with wilderness conservation and federal lands management: ALDO LEOPOLD'S *WILDERNESS: SELECTED EARLY WRITINGS BY THE AUTHOR OF A SAND COUNTY ALMANAC* (David E. Brown & Neil B. Carmony eds., 1990).

also delivered numerous conservation talks to varied audiences, a handful of them published (then or later) but the vast majority not.<sup>4</sup> So diligent was Leopold in retaining notes and manuscripts that we can reconstruct the main elements of some one hundred of his talks from this period, when he spoke with his greatest understanding and authority.<sup>5</sup> Leopold is

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Leopold's literary heritage includes far more than his published works. His voluminous manuscripts are held by the University of Wisconsin and organized under a system developed in the early 1970s by Professor Susan L. Flader, author of the first major work on Leopold. See SUSAN L. FLADER, THINKING LIKE A MOUNTAIN: ALDO LEOPOLD AND THE EVOLUTION OF AN ECOLOGICAL ATTITUDE TOWARD DEER, WOLVES, AND FORESTS (1974). The University has recently made the documents available online at <http://uwdc.library.wisc.edu>. See *infra* note 4.

4. A dozen or more of Leopold's late talks were published, either during his lifetime or later. They are contained in the sources mentioned in notes 2 and 3. Unpublished talks and the manuscripts for published talks are found in the Leopold archives, which contains Leopold's papers organized in an archival series identified with the prefix "9/25/10." The many boxes in that series are divided into 13 categories by type of document. Leopold's "writings" are in the group numbered 10-6, in the sequence 10-1 to 10-13. Each group is divided into boxes, and boxes into folders. The online index goes further, designating items in each folder by item number. The online lists of items, however, can confuse because the items in a folder often do not appear in the order listed and the lists are not always complete. Typically, however, all items in a folder are numbered consecutively, so it is possible to locate an item using the box number, folder number, and page number. These page numbers do not appear on the documents in their hard copy form in the archives. Instead, they are generated by the online display of the documents in digital form. Thus, the page numbers cited here are useful in quickly locating a document in the online archive, but a researcher undertaking a search for an item in the archives would need to search by hand through all of the items in a particular file.

The citation format used here identifies each item by group, box, file folder, and page number, using the computer-generated page number within the folder. (Often, pagination runs consecutively among multiple folders in a given box.) As an example, the archives contain the outline of a talk that Leopold delivered to the Friends of the Native Landscape on March 26, 1946. It is found at 9/25/10-6: Writings, box 14, folder 2, page 122. Citations below follow an abbreviated format (using the same example): Aldo Leopold Archives, at 10-6, box 14, folder 2, p. 122.

5. Manuscripts and note cards of Leopold's talks are found throughout the Leopold archives. Many of his later lectures appear in box 14, folders 2 and 3. An incomplete list of lectures, all but one from 1935 or later, is at Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, pp. 419–20. This list of some 85 lectures excludes not just earlier radio and extension talks but lectures chiefly prepared for classroom delivery; many of the latter are in box 15, folders 3 and 6 and a few were used in this assessment. It was challenging for the archive organizers to distinguish between lecture manuscripts and other writings loosely termed "unpublished writings." The latter, which contain many lecture-related items, are in box 14; in the case of handwritten items, typed versions are often found in box 17 and/or 18. For the most part, items designated as unpublished manuscripts rather than lectures—even when a notation on the manuscript indicates that a manuscript was used for a talk—are not included in the list in box 14, folder 3.

best remembered for his literary gem, *A Sand County Almanac and Sketches Here and There*, a flowing, complex inquiry into the human role in nature, ecologically and philosophically. In important ways, though, Leopold's mature conservation thought is most readily grasped by studying his oral presentations. It was in his talks that Leopold cut to the chase, reduced the complexity and ambiguity, curtailed his illustrations, and presented his claims most directly.

This article explores the central components of Leopold's mature conservation talk, a presentation he gave to varied audiences with different emphases and in versions more or less scientific, more or less literary and emotional, and more or less practical in their recommendations. By studying the literary record it is possible to distill what might be termed Leopold's last conservation talk: not a specific talk given on a particular day to a particular audience but, even better, a talk constructed from shared elements of many presentations—a

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Archive users will quickly see that the archives often contain multiple copies of particular items, sometimes identical, but often different in small or even significant ways. When the archives contain a hand-written manuscript by Leopold (almost invariably written in pencil on lined yellow paper), it also includes, somewhere, a typed version, perhaps done while Leopold was alive, or perhaps done after his death. In many instances Leopold reused titles for documents, creating a further need to exercise care. The existence of multiple versions creates an opportunity to see Leopold's creative mind in action. To illustrate: On April 6, 1946 (according to MEINE, *supra* note 1, at 482), Leopold gave a talk to the Wisconsin Society for Ornithology in Appleton on the occasion of the dedication of a monument to the extinct passenger pigeon. The original talk was entitled "The Path of the Pigeon." In August of that year he revised the manuscript, and his substantial cut-and-paste reworking of it, reflecting its new title "On a Monument to the Pigeon," is at Aldo Leopold Archives, *supra* note 4, at 10-6, box 9, folder 7, p. 752 *et seq.* By examining that manuscript, it is possible to reconstruct almost all of the original version of the talk, as Meine did in his research resulting in his discussion of the talk (pp. 482–83). A retyped version of the revised manuscript is at Aldo Leopold Archives, *supra* note 4, at 10-6, box 5, folder 2, pp. 380 *et seq.* In April 1947, Leopold materially revised the piece again. His second cut-and-paste revision is at Aldo Leopold Archives, *supra* note 4, at 10-6, box 9, folder 7, p. 770 *et seq.*, and the retyped version at Aldo Leopold Archives, *supra* note 4, at 10-6, box 5, folder 2, p. 384 *et seq.* The April 1947 version was published that year in SILENT WINGS, the magazine of the Wisconsin Society for Ornithology. A reprint of the publication is at Aldo Leopold Archives, *supra* note 4, at 10-6, box 1, folder 2, p. 840 *et seq.* For reasons not clear—perhaps a simple mistake?—Leopold, when assembling the manuscript for A SAND COUNTY ALMANAC, *supra* note 3, at 108–12, used the August 1946 version of the paper, not the later revision of April 1947. Resort to original versions of Leopold's writings is often revealing because Leopold frequently toned down his criticisms as he prepared talks or other writings for publication, presumably to avoid seeming too radical or shrill. He particularly toned down his cultural criticism in A SAND COUNTY ALMANAC.

generic talk that expressed the points the mature Leopold deemed most vital. What were the messages that Leopold emphasized repeatedly when he spoke to people about conservation? What were his key “take-home” points?

From over four decades of study and reflection Leopold came to understand how and why people misused land and what needed to change for them to live better with the land. His message was at once radical and conservative. And even as it built upon the best science, the message chiefly had to do with human perceptions, cultural values, and the social institutions and practices built upon them. Leopold is much cited today,<sup>6</sup> yet his message as often popularized is greatly muted, to a claim that he mostly proposed trial-and-error land management or urged that we simply “be nice to nature.”<sup>7</sup> His true message had a much sharper bite, and it went well beyond challenging specific land-use practices.

Part I of this article presents the main messages of Leopold’s last talk—assembled, as explained, from notes, file cards, manuscripts, and other materials in the Leopold archives at the University of Wisconsin and augmented with references to his contemporary writings. Part II adds depth to Leopold’s messages by probing their implicit philosophic foundations, comparing his views with those of major thinkers of his and prior eras. How did Leopold view the human being in nature and understand the limits on human knowledge? How did he portray nature as a whole? And how might we categorize his views on truth, on the objective existence of ideals and human rights, and on the proper grounding for human ethics? To situate Leopold within philosophic traditions is to appreciate further the depth of his reassessment of the human predicament, particularly his challenge to the ways ordinary people understood who they were, what they could know, and how they related to other creatures and one another.

Part III of the article takes up the issue of implementation: How did Leopold think fundamental human change might

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6. As to popularity among legal writers, a search in Westlaw of journals and law reviews in August 2012 turned up nearly 1000 citations.

7. This criticism does not apply to the major works on Leopold by Meine, Newton, and Flader, cited in notes 1 and 3, or to the essential writings on Leopold by philosopher J. Baird Callicott. *See, e.g.*, J. BAIRD CALLICOTT, IN DEFENSE OF THE LAND ETHIC: ESSAYS IN ENVIRONMENTAL PHILOSOPHY (1989); J. BAIRD CALLICOTT, BEYOND THE LAND ETHIC: MORE ESSAYS IN ENVIRONMENTAL PHILOSOPHY (1999).

come about, if at all? Part IV draws the inquiry to a close, recapitulating the radical elements of Leopold's stance and contrasting them with the less ambitious—and largely ineffective—environmental work of today.

Leopold was an intellect of considerable depth and breadth. Slowly, carefully, he rested his conservation basics and scientific understandings on a well-considered reassessment of how humans fit into nature and how they might best understand and embrace their ecological plight. In the end, after decades of practice, study, and reflection, Leopold called Americans to make profound changes in not just the liberal traditions of individual autonomy and economic liberty but the main components and dualities of Enlightenment thought. Only change at such fundamental levels, Leopold reluctantly concluded, could allow human life to flourish. Only by becoming different and better in our understandings, ethics, and aesthetics, and only by accepting a more humble status and undergoing (as he put it in 1941) a “face-about in land philosophy,”<sup>8</sup> could we flourish while sustaining other life forms and processes. “Thus we started to move a straw,” he explained to fellow wildlife professionals in a 1940 talk, “and end up with the job of moving a mountain.”<sup>9</sup>

Leopold was critical of conservation in his day, particularly conservation education that was, he contended, a “milk and water” affair, far too timid and unimaginative to prompt fundamental change.<sup>10</sup> Alive today, he might well say the same about the fragmented, technical, narrowly focused work of the contemporary environmental movement. It similarly fails to identify the root causes of land abuse in human nature and culture, and failing to embrace them, pursues a strategy that offers little hope. It too avoids challenging the cultural ills of modern society, preferring instead to work within, and thus endorse, the values and worldviews that have brought humankind to the edge of cascading decline.

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8. LEOPOLD, FHL, *supra* note 3, at 198.

9. LEOPOLD, *The State of the Profession*, in RMG, *supra* note 2, at 280.

10. *E.g.*, LEOPOLD, *Land-Use and Democracy*, in RMG, *supra* note 2, at 298; Aldo Leopold, *Armament for Conservation*, (Nov. 23, 1942) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 6, p. 692.

## I. THE TALK

The conservation community of Leopold's era, from about 1900 to the period after World War II, aspired above all to redress the specific resource challenges identified at the turn of the prior century—challenges of declining flows of those natural resources that humans used directly.<sup>11</sup> Since the late colonial era croplands had declined in natural fertility and, without inputs, produced lower yields. Game populations were sliding down while fishers and whalers journeyed ever further to find their prey. Timber clearcutting appeared to threaten flows of wood products; industrial processes and human wastes tainted water supplies. Agriculture, it seemed, could expand only by draining rivers and drawing down aquifers. Dust storms in semi-arid lands—and even normal rainfall on hillsides—often reduced valuable topsoil into unwanted sediment, clogging rivers and reservoirs. The typical, fear-driven solutions of the day proposed managing resource flows more scientifically. Yet problems remained, particularly as steps to conserve one resource clashed with measures taken to protect and produce others. Meanwhile, attentive observers recognized that active efforts to enhance annual flows of specific resources came at great cost both to the countless other species that were simply in the way and to the ecological processes and natural beauties they sustained. Underlying and justifying this scientific, resource-conservation effort were key assumptions: about human powers and science, the moral

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11. Considerable literature exists on the conservation movement and the ways conservation challenges were commonly framed and discussed. The typical entry point is the classic work SAMUEL P. HAYS, *CONSERVATION AND THE GOSPEL OF EFFICIENCY: THE PROGRESSIVE CONSERVATION MOVEMENT 1890–1920* (1959). Other useful sources include the works by Meine and Newton, *supra* note 1, as well as RANDAL S. BEEMAN & JAMES A. PRITCHARD, *A GREEN AND PERMANENT LAND: ECOLOGY AND AGRICULTURE IN THE TWENTIETH CENTURY* (2001); THOMAS P. DUNLAP, *SAVING AMERICA'S WILDLIFE* (1988); STEPHEN FOX, *THE AMERICAN CONSERVATION MOVEMENT: JOHN MUIR AND HIS LEGACY* (1981); FRANK GRAHAM, JR., *MAN'S DOMINION: THE STORY OF CONSERVATION IN AMERICA* (1971); A.L. RIESCH OWEN, *CONSERVATION UNDER F.D.R.* (1983); SARAH T. PHILLIPS, *THIS LAND, THIS NATION: CONSERVATION, RURAL AMERICA, AND THE NEW DEAL* (2007); JOHN F. REIGER, *AMERICAN SPORTSMEN AND THE ORIGINS OF CONSERVATION* (3d. ed. 2001); TED STEINBERG, *DOWN TO EARTH: NATURE'S ROLE IN AMERICAN HISTORY* (2d ed. 2009); STEVEN STOLL, *LARDING THE LEAN EARTH: SOIL AND SOCIETY IN NINETEENTH-CENTURY AMERICA* (2002); DONALD WORSTER, *DUST BOWL: THE SOUTHERN PLAINS IN THE 1930S* (1979); DONALD WORSTER, *A PASSION FOR NATURE: THE LIFE OF JOHN MUIR* (2008).



primacy of human life, and the economic and political importance of individual autonomy.

This was the intellectual and moral environment in which Leopold came of age, rose through the institutional (Forest Service) and professional ranks, and gained prominence as a forester, game manager, wilderness advocate, and penetrating writer. It was also the cultural milieu that Leopold confronted when he reached out to varied audiences to talk about the nation's conservation needs.<sup>12</sup> However consciously, his audience members assumed that moral value resided largely, if not entirely, in the human species, and that humans were best understood as mostly autonomous beings.<sup>13</sup> Similarly, nature existed largely as a warehouse of raw materials and appeared to be created precisely for that purpose. Guided by human cleverness, science and industry supplied the tools for extraction and manipulation, solving problems as they arose. Landscapes were divided among political jurisdictions and, in most of the country, into clearly bounded land parcels, privately owned and managed. The rights of private landowners were substantial and somehow, it was believed, grounded in the constitution and individual rights. Limits on private land-use options were deemed legitimate only when private actions visibly harmed neighbors or the surrounding community.<sup>14</sup>

By his mature years, Leopold came to believe that this entire constellation of perceptions and values lay at the root of America's environmental plight. Misguided land use was

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12. The contexts of the conservation movement of Leopold's day are well presented in MEINE, *supra* note 1, and NEWTON, *supra* note 1.

13. For instance, law protected human life but not the life of any other living creature (unless as private property). The family retained cultural value, but only individuals held recognized legal rights. Moreover, only individuals (and fictional legal entities that operated as individuals) could protect their interests in court. In the law, as in culture, nature was merely the backdrop, the place where humans happened to live, the raw materials that people could draw upon freely, subject only to technological limits in meeting their needs and desires. Humans were moral subjects and actors; nature was a collection of objects.

14. Thus, landowners exercising their rights were constrained at common law chiefly by the laws of public and private nuisance, which curtailed only activities that caused substantial harm, along with varied, similar rules governing natural resources. To be sure, widespread land-use regulations did exist, particularly in urban areas, but these aimed chiefly, if not exclusively, at forestalling conflicts among human users of nature. As the sources in note 11 make clear, even areas set aside as parks were intended as places for human use and protected principally for that reason.



intertwined with these cultural components and would end only if and when American culture changed directions. Thus, as Leopold rose to address his audiences, his ambitious aim was to push American culture in a new, healthier direction. He did so by emphasizing four central messages: the land as a community of life, how that community could be more or less healthy in its functioning, the prudence and virtue of embracing community (or land) health as a goal, and the extraordinary challenge humans faced in pursuing that overall goal.

A. *The land as community*

Leopold's first hope in his standard conservation talk, logically if not always temporally, was to push his audience to think in new ways about land and the human place in the land. Land was not simply a warehouse or flow of resources that humans needed in order to live. To the contrary, land—understood as not just soils and rocks but water, plants, animals, and people—was a highly integrated, interdependent functioning system upon which all life depended for survival. “Before I even begin,” Leopold explained to one audience, “I must ask you to think of land and everything on it (soil, water, forests, birds, mammals, wildflowers, crops, livestock, farmers) not as separate things, but as parts—organs—of a body. That body I call the land (or if we want a fancy term, the biota).”<sup>15</sup> This land was the “most complex” of all organisms, he told a campus group in May of 1941.<sup>16</sup> “No one dreamed a hundred years ago that metal, air, petroleum, and electricity could coordinate as an engine,” Leopold explained in 1939.<sup>17</sup> “Few realize today that soil, water, plants, and animals are an engine, subject, like any other, to derangement;” land was a “biological engine” that had to be used not just with skill, but with enthusiasm and affection.<sup>18</sup> As he wrote on a three-by-five

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15. Aldo Leopold, *The Meaning of Conservation* (undated) (note cards prepared for a talk that was likely given more than once), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 7, p. 1293.

16. Aldo Leopold, *Conservationist in Mexico* (undated) (lecture notes), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 470.

17. LEOPOLD, *The Farmer as a Conservationist*, in RMG, *supra* note 2, at 257–58 (first delivered to a “Farm and Home Week” audience).

18. *Id.*

lecture note card prepared around 1942: "Land: soils, water, plants, animals."<sup>19</sup>

Leopold frequently used metaphors to explain this view of nature. A common one, particularly when talking about ethics and perceptions, was to speak of land as a community, a term that skirted some of the imprecisions of describing it as either an organism or a mechanism.<sup>20</sup> The land was a community, and humans were as integrated with its other components as any other living creature. As Leopold would famously say in *A Sand County Almanac*, "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."<sup>21</sup> His land ethic, he explained, changed "the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it."<sup>22</sup> "Who is the land?" he asked rhetorically in 1942.<sup>23</sup> "We are, but no less the meanest flower that blows. Land ecology discards at the outset the fallacious notion that the wild community is one thing, the human community another."<sup>24</sup>

Regrettably, Leopold lamented, this conception of land was simply not understood. "We have taught science for a century," he complained, "without implanting in the mind of youth the concept of community with the land."<sup>25</sup> Conservation simply could not succeed until people saw the land in this new way. There was "[o]nly one way out of this confusion": "For the average citizen to have a wider appreciation of land, a more

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19. Aldo Leopold, Biotic Land Use (undated) (unpublished lecture notes), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 451. A full text version of this talk, one of Leopold's most important discussions of land health, has appeared in LEOPOLD, FHL, *supra* note 3, at 198.

20. A challenge to Leopold's mixture of organic and mechanical models of nature is presented in DONALD WORSTER, NATURE'S ECONOMY: A HISTORY OF ECOLOGICAL IDEAS 288-90 (2d ed. 1994). As Worster explains, these metaphors had long carried different connotations. Leopold, however, had his own way of using words, often finding mechanical metaphors useful when highlighting the inner workings of a community while drawing upon organismic imagery when emphasizing a community as a whole.

21. LEOPOLD, A SAND COUNTY ALMANAC, *supra* note 3, at viii.

22. *Id.* at 204.

23. LEOPOLD, *The Role of Wildlife in a Liberal Education*, in RMG, *supra* note 2, at 303.

24. *Id.*

25. Aldo Leopold, Address to a Birding Group, On a Monument to the Pigeon (1946) (Aldo Leopold Archives, *supra* note 4, at 10-6, box 9, folder 7, p. 762) (delivered to a birding group).

critical understanding of it, especially his own land.”<sup>26</sup> The educational challenge, he understood, was a big one. As Leopold said to the Wildlife Society:

We find that we cannot produce much to shoot until the landowner changes his way of using land, and he in turn cannot change his ways until his teachers, bankers, customers, editors, governors, and trespassers change their ideas about what land is for. To change ideas about what land is for is to change ideas about what anything is for.<sup>27</sup>

*B. A community can be more or less healthy*

Leopold spent years of study and reflection attempting to learn how the land community functioned and how people might best evaluate the quality or condition of their lands.<sup>28</sup> The key step was to see that land was not simply a collection of constituent parts, however complex. To the contrary, land’s components were sufficiently interdependent that failings in one part of the land community could undercut the productivity of other parts. Leopold addressed this issue in a talk to wildlife professionals in 1939 as he surveyed gains in understanding over the past decade:

The greatest single gain since 1930 lies, I think, in the growth of detail in the idea that resources are interdependent. We knew then that you can’t have healthy fish in sick waters. We knew something of the interdependence of animals and forests. But the idea of sick soils undermining the health of the whole organic structure had not been born.<sup>29</sup>

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26. Aldo Leopold, Address to a Kiwanis Club, The Basis of Conservation Education (1939) (Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 5, p. 999) (first delivered to a Kiwanis Club gathering in 1939).

27. LEOPOLD, *The State of the Profession*, in RMG, *supra* note 2, at 280.

28. The fullest study of this effort by Leopold, along with his allied effort to figure out why people misused land, is NEWTON, *supra* note 1, *passim*.

29. Aldo Leopold, Game Policy Model 1930 (1939) (lecture notes), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 2, p. 318. Leopold’s emphasis on soil as a key indicator of health—and on the loss of soil and decline of soil quality as a sign of ill health—echoed writings by Karl Marx on the land-use ill that he termed “metabolic rift”: that is, the disruption of fertility cycles caused by the removal of animals and people (and their wastes) from the land, thus transporting nutrients away from land and sapping its productivity. JOHN BELLAMY FOSTER, *THE ECOLOGICAL REVOLUTION: MAKING PEACE WITH THE PLANET* 168–80 (2009). On the particular importance of soil

It was a substantial, long-term struggle for scientist Leopold to gain a sense of what it meant for a land community to possess health. Starting in 1935, he began listing what he termed the main signs of land sickness or pathology. "Regarding society and land collectively as an organism," he announced in 1935, "that organism has suddenly developed pathological symptoms, i.e. self-accelerating rather than self-compensating departures from normal functioning."<sup>30</sup> Years later, Leopold was willing to turn his evidence of land sickness into a positive, albeit generalized, definition of land health.<sup>31</sup> One expression came in a 1944 manuscript first published in 1991:

The land consists of soil, water, plants, and animals, but health is more than a sufficiency of these components. It is a state of vigorous self-renewal in each of them, and in all collectively. Such a collective functioning of interdependent parts of the maintenance of the whole is characteristic of an organism. In this sense land is an organism, and conservation deal with its functional integrity, or health.<sup>32</sup>

One of Leopold's fullest expressions of land health appeared in a draft document prepared not long before he died, perhaps intended as the text for a major address he was slated to give as outgoing president of the Ecological Society of America, some months after his premature death:<sup>33</sup>

The symptoms of disorganization, or land sickness, are well known. They include abnormal erosion, abnormal intensity of floods, decline of yields in crops and forests, decline of carrying capacity in pastures and ranges, outbreak of some species as pests and the disappearance of others without visible cause, a general

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fertility in Leopold's ideal of land health, see NEWTON, *supra* note 1, at 336–42.

30. LEOPOLD, *Land Pathology*, in RMG, *supra* note 2, at 217.

31. The evolution of Leopold's thought on this point, shifting from evidence of land sickness to more affirmative statements of land health, is covered in NEWTON, *supra* note 1, at 319–43.

32. LEOPOLD, *Conservation: In Whole or In Part?*, in RMG, *supra* note 2, at 310.

33. On Leopold's plans for this talk, see Julianne Lutz Warren, *Science, Recreation, and Leopold's Quest for a Durable Scale*, in THE WILDERNESS DEBATE RAGES ON: CONTINUING THE GREAT NEW WILDERNESS DEBATE 97–99 (MICHAEL P. NELSON & J. BAIRD CALLICOTT, eds., 2008). On Leopold's forthcoming address, see NEWTON, *supra* note 1, at 350.

tendency toward the shortening of species lists and of food chains, and a world-wide dominance of plant and animal weeds.<sup>34</sup>

In talk after talk, Leopold stressed that the land's functioning as a community could be more or less sound, more or less healthy, and its productivity, and thus capacity to sustain life, was based on that health. Leopold lacked full confidence in his own understanding of land health and encouraged others to join in his quest to make sense of it.<sup>35</sup> Indeed, he was sometimes prone to pose the issue directly: "What is land-health?"<sup>36</sup> Yet he knew well enough the major symptoms of sickness, and he possessed plentiful evidence that sick lands were less able to sustain human communities.<sup>37</sup>

### C. *Land health as the conservation goal*

The first two points that Leopold presented in his standard talk—that land was a community and that the community could be more or less healthy—led directly to his third point: the health of the land should be the aim of all conservation efforts. This normative claim, Leopold knew, ran counter to the accepted wisdom of the age, which focused on flows of discrete resources. "The basic fallacy in this kind of 'conservation' is that it seeks to conserve one resource by destroying another," Leopold told a garden club in 1947.<sup>38</sup> "These 'conservationists' are unable to see the land as a whole. They are unable to think in terms of community rather than group welfare, and in terms of the long as well as the short view."<sup>39</sup>

Leopold repeatedly complained about the conservation ideology of his day. "We have hundreds of conservation organizations, each promoting some special resource, often at the expense of another," he lamented in 1939, "[n]one sees land as a whole."<sup>40</sup> "Conservation is more than commodities," he

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34. LEOPOLD, *The Land-Health Concept and Conservation*, in FHL, *supra* note 3, at 219.

35. LEOPOLD, *Conservation: In Whole or In Part?* in RMG, *supra* note 2, at 310.

36. Aldo Leopold, Address to Civil Engineering Gathering: Health in S.W. Wisconsin (November 1943), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 2, p. 220.

37. NEWTON, *supra* note 1 at 319–27.

38. LEOPOLD, *The Ecological Conscience*, in RMG, *supra* note 2, at 342.

39. *Id.*

40. Aldo Leopold, The Basis of Conservation Education (July 20, 1939) (unpublished

reiterated the next year; “the various kinds of commodities shouldn’t compete, [they] should be complementary.”<sup>41</sup> By focusing on specific conservation challenges, “we confuse the symptom and the disease, the part and the whole.”<sup>42</sup> Given the frequent clashes among them, the conservation technologies of the day were simply not working even though their practitioners tried to coordinate their efforts. “They lack, firstly, a collective purpose: stabilization of land as a whole,” Leopold explained.<sup>43</sup> “Until the technologies accept as their common purpose the health of the land as a whole, ‘coordination’ is mere window-dressing, and each will continue in part to cancel the other.”<sup>44</sup>

“Basic to all conservation is the concept of land-health; the sustained self-renewal of the community,” Leopold explained to a wildlife group in 1941.<sup>45</sup> “It is at once self-evident from such an over-all view of the community that land-health is more important than surpluses or shortages in any particular land-product.”<sup>46</sup> It was thus essential that “sound conservation propaganda . . . present land health, as well as land products, as the objective of ‘good’ land use”<sup>47</sup> or as he put it in the outline for one talk, “Conservation—health of land.”<sup>48</sup>

Leopold made clear his emphasis on land health in the fall of 1946 when he was asked to draft the conservation platform for a fledgling national political party being organized by John Dewey and A. Philip Randolph.<sup>49</sup> Leopold responded with a conservation platform that fit easily on one page so that its main points would stand out:

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manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 5, p. 549.

41. Aldo Leopold, *Biotic Theories and Conservation* (Feb. 20, 1940) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 301.

42. Aldo Leopold, *Conservationist in Mexico* (May 8, 1941) (3 x 5 notecards), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 471.

43. LEOPOLD, *Biotic Land-Use*, in FHL, *supra* note 3, at 202.

44. *Id.* Leopold stressed this point in the 3 x 5 notecards he used when delivering this lecture. Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 451.

45. LEOPOLD, *The Role of Wildlife in a Liberal Education*, in RMG, *supra* note 2, at 303.

46. *Id.*

47. LEOPOLD, *Conservation: In Whole or in Part?* in RMG, *supra* note 2, at 317.

48. Aldo Leopold, *The Meaning of Conservation* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 7, p. 1293.

49. Leopold’s role is explained in MEINE, *supra* note 1, at 480–81.

[T]he health of the land as a whole, rather than the supply of its constituent “resources”, is what needs conserving. Land, like other things, has the capacity for self-renewal (i.e. for permanent productivity) only when its natural parts are present, and functional. It is a dangerous fallacy to assume that we are free to discard or change any part of the land we do not find “useful” (such as flood plains, marshes, and wild floras and faunas).<sup>50</sup>

#### *D. Radical change*

By this point in his standard talk, Leopold had made three of his four key points: the land was a community in which humans were embedded; that community could be more or less functionally efficient and fertile, which is to say healthy; and the health of the community as such, not the flows of particular “resources,” should be the overriding aim of conservation. What remained was to make his most difficult and sensitive point, to explain to people without alienating or scaring them the kind of radical change required in American culture for humans to live on land without spoiling it. His message on this point, in truth, called for a redirection of the trajectory of Western culture since the era of Descartes and Francis Bacon in the early Enlightenment; a turning away from key elements of liberal individualism and a reassessment of the achievements and possibilities of science and the scientific method. This was not a message that Leopold could present directly in the language of philosophy or political theory. Instead, he had to simplify his conclusion in some way, translating it into ordinary language and into everyday life. Leopold did so by emphasizing the need for people to embrace, not just new ideas as such, but new feelings, new values, and

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50. Aldo Leopold, *Conservation* (1946) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-1, box 1, folder 14, p. 510. Leopold’s definition of health, as the quote makes clear, focused on the ecological functioning of the land community as such; it was not directly centered on maintaining all species that were present at some point in the past—perhaps when white settlers first arrived, perhaps instead when industrialization began. Leopold, though, was not unconcerned about the loss of species, even when the disappearance of a species caused no discernible reduction in community functioning. He doubted whether humans could rightly draw such a conclusion given the limits on human knowledge, and thus deemed it prudent to keep as many native species as possible. *See* NEWTON, *supra* note 1, at 346–51.



new goals.

As he warmed to this issue, Leopold often pointedly criticized the popular mind-frame of his day. "Land, to the average citizen," he complained, was "still something to be tamed, rather than something to be understood, loved, and lived with. Resources are still regarded as separate entities, indeed, as commodities, rather than as our co-inhabitants in the land-community."<sup>51</sup> As he put it in a war-time presentation:

Land, to the average citizen, means the people on the land. There is no affection for or loyalty to the land as such, or to its non-human cohabitants. The concept of land as a community, of which we are only members, is limited to a few ecologists. Ninety nine percent of the world's brains and votes have never heard of it. The mass mind is devoid of any notion that the integrity of the land community may depend on its wholeness, that this wholeness is needlessly destroyed by the present modes of land-use, or that the land-sciences have not yet examined the possibilities of preserving more of it.<sup>52</sup>

A key flaw in the popular mind was the assumption that humans somehow stood apart from nature and could manipulate it at will, overcoming challenges as they arose:

Conservation is a pipe-dream as long as *Homo sapiens* is cast in the role of conqueror, and his land in the role of slave and servant. Conservation becomes possible only when man assumes the role of citizen in a community of which soils and waters, plants and animals are fellow members, each dependent on the others, and each entitled to his place in the sun.<sup>53</sup>

At the center of the popular misunderstanding was America's love affair with an industrial system that treated nature simply as a fund of raw materials. "It is increasingly

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51. LEOPOLD, *Conservation: In Whole or In Part?* in RMG, *supra* note 2, at 311.

52. Aldo Leopold, *The Role of Wildlife in Education* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 7, p. 1313.

53. Aldo Leopold, *Foreword* (July 31, 1947) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 5, p. 1203 (from the original, longer *Foreword* that Leopold wrote for *A SOUND COUNTY ALMANAC* in July 1947, but then discarded in favor of the final, shorter one). This version was later published in *COMPANION TO A SAND COUNTY ALMANAC: INTERPRETIVE AND CRITICAL ESSAYS* 281 (J. BAIRD CALLICOTT, ed., 1987).

clear,” Leopold asserted, “that there is a basic antagonism between the philosophy of the industrial age and the philosophy of the conservationist.”<sup>54</sup> Or, as he put it in a letter to fellow wildlife researcher Bill Vogt, commenting on Vogt’s conservation ideas: “The only thing you have left out is whether the philosophy of industrial culture is not, in its ultimate development, irreconcilable with ecological conservation. I think it is.”<sup>55</sup>

What was needed was a new orientation of people to land, one that grew in the heart as well as the mind. “Culture is a state of awareness of the land’s collective functioning,” Leopold observed in 1942,<sup>56</sup> and a better culture was urgently needed, one based on “a wider appreciation of land, a more critical understanding of it.”<sup>57</sup> In other words, “[t]he basic question in conservation [was] not the condition of the land, but the proportion of people who love it.”<sup>58</sup>

There must be some force behind conservation more universal than profit, less awkward than government, less ephemeral than sport; something that reaches into all times and places, where men live on land, something that brackets everything from rivers to raindrops, from whales to hummingbirds, from land estates to window boxes. I can see only one such force: a respect for land as an organism; a voluntary decency in land-use exercised by every citizen and every landowner out of a sense of love for an obligation to that great biota we call America.<sup>59</sup>

In many of his presentations, Leopold paid particular attention to the category of citizens who were most vital if America was going to see land anew.<sup>60</sup> Vast landscapes in

54. Aldo Leopold, *A Modus Vivendi for Conservationists* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 6, p. 1127.

55. Letter from Aldo Leopold to William Vogt (undated), Aldo Leopold Archives, *supra* note 4, at 10-2, box 4, folder 11, p. 911.

56. LEOPOLD, *Land-Use and Democracy*, in RMG, *supra* note 2, at 300.

57. Aldo Leopold, *The Basis of Conservation Education* (July 20, 1939) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 5, p. 999.

58. Aldo Leopold, *Ecological Haves and Have-Nots* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 6, p. 1108.

59. Aldo Leopold, *The Meaning of Conservation* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 7, p. 1296.

60. The particular attention Leopold paid to farmers—appropriately so, given his position in the College of Agriculture—is illustrated by the writings in LEOPOLD, FHL,

Wisconsin were owned and controlled by farmers, and it was farm culture above all that required change. It was essential that farmers develop a new understanding of what it meant to use farmland well and succeed as a farmer:

In addition to healthy soil, crops, and livestock, [the farmer] should know and feel a pride in a healthy sample of marsh, woodlot, pond, stream, bog, or roadside prairie. In addition to being a conscious citizen of his political, social, and economic community, he should be a conscious citizen of his watershed, his migratory bird flyway, his biotic management. Wild crops as well as tame crops should be a part of his scheme of farm management. He should hate no native animal or plant, but only excess or extinction in any one of them.<sup>61</sup>

This new attitude toward land, Leopold believed, had to take shape in moral terms, as a matter of right and wrong, not merely in the untethered language of preference or desirability. As he put it to a garden club, they should not shy away from moral admonition:

The direction is clear, and the first step is to *throw your weight around* on matters of right and wrong in land-use. Cease being intimidated by the argument that a right action is impossible because it does not yield maximum profits, or that a wrong action is to be condoned because it pays. That philosophy is dead in human relations, and its funeral in land-relations is overdue.<sup>62</sup>

The conservation message most popular at the time was too easy to get much done. "It calls for no effort or sacrifice; no change in our philosophy of values," Leopold asserted; it failed to recognize that "[n]o important change in human conduct [was] ever accomplished without an internal change in our intellectual emphases, our loyalties, our affections, and our convictions."<sup>63</sup>

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*supra* note 3.

61. LEOPOLD, *Conservation: In Whole or in Part?* in RMG, *supra* note 2, at 318.

62. LEOPOLD, *The Ecological Conscience*, in RMG, *supra* note 2, at 346.

63. *Id.* at 338.

## II. SITUATING LEOPOLD'S CLAIMS

So lyrical is Leopold's writing, particularly in *A Sand County Almanac* and other polished works, that the words and phrases sweep the typical reader along without insisting that one go slow and reflect. Few readers, then or even now, paused to consider how radically Leopold sought to reshape modern culture; few could see that Leopold aimed, not to prune unhelpful shoots, but to pull society up by its roots and replant it in better soil, more moral and intellectual.

By late in life, Leopold had grave reservations about Western civilization and the idea of progress. The Western trajectory featured a mixed heritage of darkness, decay, and violence as well as enlightenment and elevation.<sup>64</sup> In too many ways, humans were blind and arrogant. Like civilizations of the past, the modern world was degrading its natural foundations and thus its future. Its cleverness in developing tools and harnessing power far surpassed its advances in ethics and aesthetics.

Leopold's messages gain complexity when we situate his thinking within influential strands of philosophy over the centuries, not to identify actual influences on him, but to highlight, clarify and evaluate his central challenges. One can do so by evaluating where Leopold situated himself (or seemed to) on five subjects of enduring interest to philosophy:

- How distinct are humans from other life forms and are they sensibly understood, as the liberal tradition would have it, as autonomous, rights-bearing individuals; is human arrogance, that is, consistent with scientific reality?
- Is science, as assumed, on the verge of understanding nature and controlling it; is our cleverness, that is, sufficient to overcome the limits on our senses and knowledge?
- Is nature largely a collection of parts—some valuable to humans, most not—and can we rightly think of nature and deal with it in terms of its parts?

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64. A recent assessment, judging civilization by all of its consequences not merely the beneficial ones, is ROGER OSBORNE, *CIVILIZATION: A NEW HISTORY OF THE WESTERN WORLD* 1–19 (2006).

- Is humankind well-guided by embracing a scientific understanding of truth, given the vast gaps in human knowledge?
- Is there, in the physical world, an overriding norm of goodness that humans ought to respect or can we, given the collapse of faith-based verities, sensibly equate goodness with the satisfaction of human preferences?

Leopold tangled with these big issues, drawing conclusions that set him far from the dominant views of his day.

*A. Human exceptionalism and liberal autonomy*

Perhaps Leopold's central challenge to modernity had to do with his ultimate understanding of the human place in nature, which he concluded was far more humble than we understood. On this issue Leopold drew heavily upon the findings of modern science, which increasingly cast doubt on the arrogance of liberal humanism.

The dominant understanding of Leopold's day rested on a centuries-long intellectual trajectory, one that gained prominence at the Enlightenment's dawn in early seventeenth-century Western society. The then-ascending impulse was for humans to rise above nature, seeing it as a complex but ultimately knowable machine and controlling it in service of human wants. It was an impulse—grounded on the humanist side of the Renaissance—that gave rise in complex ways not only to advances in science and technology, but to the revolutions of the seventeenth and eighteenth century, the emergence of economic liberalism, and the expanding embrace of individual rights. Put simply, the independent thinker of the age of Descartes (early seventeenth century) had matured into the morally autonomous, utility-seeking actor of the age of Bentham and J.S. Mill (nineteenth century), and gone onward to become the rights-bearing, vote-wielding citizen of the early twentieth-century. In the emergent liberal ideal, an individual could act as she saw fit, crafting and pursuing a self-chosen vision of the good life so long as she caused no material harm and recognized the equal rights of others to act similarly. Nature was where human life unfolded, and science helped guide its manipulation. Driving the quest, as historian Richard

Tarnas has observed, was “a heroic impulse to forge an autonomous rational human self by separating it from the primordial unity with nature.”<sup>65</sup>

The problem with this trajectory, as Leopold well understood, was that the very science that made humans proud and independent had begun, by the mid-nineteenth century, to cast doubt on these assumptions of human exceptionalism. Theories of evolution and natural selection questioned the uniqueness of human life; we differed from other life, it seemed, not in kind but merely in degree. Freudian psychology questioned whether man was in fact guided by reason rather than, like other creatures, animal passions. Meanwhile and more importantly, claims of objective morality and goodness—particularly the religious ones that exalted humans as a special life form—were rapidly losing their potency.<sup>66</sup> Was the moral order with humans on top simply a human conceit? And was the Western world’s particular world view, as anthropologists and sociologists pointed out, merely one of countless world views that humans had embraced at different times and places—mere human creations, all of them lacking in objective reality? It was no easy job to answer what the evolution apologist Thomas Huxley termed “the question of questions for mankind—the problem which underlies all others, and is more deeply interesting than any other—[] the ascertainment of the place which Man occupies in nature and of his relations to the universe of things.”<sup>67</sup>

These various intellectual currents generated disorientation and anxieties that were exacerbated by the violence and bestiality of the First World War, a war that hardly seemed conceivable in the halcyon glow of Victorian days.<sup>68</sup> If humans really were such special, rational creatures why did they

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65. RICHARD TARNAS, *THE PASSION OF THE WESTERN MIND: UNDERSTANDING THE IDEAS THAT HAVE SHAPED OUR WORLD* 441 (1991).

66. For a classic exploration from the era, see, e.g., JOSEPH WOOD KRUTCH, *THE MODERN TEMPER: A STUDY AND A CONFESSION* (1929). A historical study, picking up on Krutch’s title, is LYNN DUMENIL, *THE MODERN TEMPER: AMERICAN CULTURE AND SOCIETY IN THE 1920S* (1995).

67. THOMAS H. HUXLEY, *MAN’S PLACE IN NATURE; THE EVOLUTION DEBATE, 1813–1870*, at 59 (David Knight ed., 2003).

68. E.g., MICHAEL E. PARRISH, *ANXIOUS DECADES: AMERICA IN PROSPERITY AND DEPRESSION, 1920–1941*, at 183–96 (1992).

behave like brutes? Joseph Wood Krutch captured the age's skeptical spirit in his 1929 best-seller, *The Modern Temper*, a precursor of existential writings to come. Because biology had shown, Krutch contended,

[H]ow unlikely it is that man is the recipient of any transcendental knowledge, there remains no foundation in authority for ideas of right and wrong; and if, on the other hand, we turn to the traditions of the human race anthropology is ready to prove that no consistent human tradition has ever existed. Custom has furnished the only basis which ethics have ever had, and there is no conceivable human action which custom has not at one time justified and at another condemned. Standards are imaginary things, and yet it is extremely doubtful if man can live well, either spiritually or physically, without the belief that they are somehow real. Without them society lapses into anarchy and the individual becomes aware of an intolerable disharmony between himself and the universe.<sup>69</sup>

It was easy for contemporaries to attribute the angst of the age simply to the era's consumerism and loosening sexual morals, but the old foundations had, in fact, been powerfully questioned. These questions facilitated the rise of economic theories of material growth that at least promised prosperity, whatever their costs in spirit, calm, and community. Intellectuals "wavered between hope and despair," increasingly convinced that Western values and ideals were outmoded.<sup>70</sup>

As Leopold considered the human place in nature, he drew heavily upon the latest science. Evolution supplied the base of his world view: humans arose in the same way as other species. As much or more, though, he was influenced by the newer field of ecology, which by focusing on present-day interdependencies operated, in a sense, perpendicular to the temporal flow of evolution.<sup>71</sup> Much as Darwin forged a historic link between humankind and other life forms, so ecology showed that humans today were every bit as connected and

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69. KRUTCH, *supra* note 66, at 13.

70. MORTON WHITE, *SOCIAL THOUGHT IN AMERICA: THE REVOLT AGAINST FORMALISM* 182 (2d ed. 1957).

71. The development of ecological thought, before and after ecology came together as a science, is traced in WORSTER, *supra* note 20.



interdependent with nature as the lowly earthworm. And it was a connection that was contemporary and essential, not merely, like evolution, a story of eons past. Ecology portrayed an ever-changing natural order upon which all life depended. As Leopold put it to a student audience in 1941:

Every living thing represents an equation of give and take. Man or mouse, oak or orchid, we take a livelihood from our land and our fellows, and give in return an endless succession of acts and thoughts, each of which changes us, our fellows, our land, and its capacity to yield us a further living.<sup>72</sup>

Ecology, Leopold understood, was no less powerful than evolution in challenging the arrogance of the Western liberal view in its presumption of human specialness and its tendency to portray humans as freestanding individuals. To the contrary, as science showed, the human being was, in important ways, simply another animal that lived, ate, reproduced, and died.<sup>73</sup> She, too, was merely a component of something larger and could not be understood without considering her interactions with natural systems and other life forms.

Leopold's thinking led him, step by step, to a radical reconception of the human place in nature. Conventional morality notwithstanding, the individual human was in physical fact embedded in a natural order that could be more or less conducive to life. Writing at the same time, philosopher John Dewey stressed that individuals were embedded in society with much of what they understood and did guided by society.<sup>74</sup> With this perspective Dewey carried forward the dislike of atomistic thinking that characterized earlier transcendental thinking, including that of his Vermont

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72. LEOPOLD, *Ecology and Politics*, in RMG, *supra* note 2, at 281.

73. Leopold recognized, of course, that humans had unique traits and could operate at higher intellectual and moral levels than other species. He complimented humans in his meditation on the loss of the passenger pigeon by noting that humans were the first species in history to mourn the loss of another, *see* LEOPOLD, *On a Monument to a Pigeon*, in A SAND COUNTY ALMANAC, *supra* note 3, and often noted how humans could rightfully impose their personalities on the land, *see The Farmer as a Conservationist*, in RMG, *supra* note 2. To Leopold, a human was thus an animal in nature and something much more than that.

74. *See* LOUIS MENAND, THE METAPHYSICAL CLUB: A STORY OF IDEAS IN AMERICA 236-37 (2001).

predecessor James Marsh, who believed humans realized themselves only as they successfully filled their communal roles.<sup>75</sup> Leopold adapted this organic thinking to the natural world and modern science, serving in effect as Dewey's ecological counterpart. In Leopold's view, individuals were called to play ecological as well as social roles, particularly when they wielded the power to manage land, and they truly flourished only when they fulfilled their roles well.

In "The Land Ethic," the ultimate essay in his *A Sand County Almanac*, Leopold expressed plainly his dissent from the Western liberal tradition. Far from being conqueror of the land community, the individual was simply a "plain member and citizen of it."<sup>76</sup> She was, "in fact, only a member of a biotic team,"<sup>77</sup> and as such owed duties of responsible conduct to both the team and its other members. In the classic liberal view of J.S. Mill, the individual was free to act so long as she caused no harm to others.<sup>78</sup> But what did the do-no-harm limit mean when an individual belonged to a land community and when every action spread ripple effects far and wide? One could no longer define harm solely as direct impacts on human neighbors. Harm also occurred by the degradation of the community's ecological functioning; by disruptions to the health of the land as such. And it was no longer acceptable, Leopold implied, for a landowner to sit back and do nothing when land health required positive action.<sup>79</sup>

### *B. The reach of human knowledge*

Leopold's reconsideration of the human plight and human capabilities drew him into longstanding discussions about how much humans knew and could know, which is to say into the field of epistemology. Here, too, he developed a sense of humility that set him apart, even with his extraordinary grasp of modern science.

As Leopold studied the natural world, he had no doubt of its

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75. *See id.*

76. LEOPOLD, *A SAND COUNTY ALMANAC*, *supra* note 3, at 204.

77. *Id.* at 205.

78. JOHN STUART MILL, *ON LIBERTY* 68, 91–92, 95–100 (Bobbs-Merrill ed. 1956) (1859).

79. Mill similarly agreed that a human community could find harm from a person's failure to act. *Id.* at 15.

real existence nor did he question that scientists could learn truth by using their senses to gather data and applying reason to the results. At the same time, Leopold accepted the view (often traced to Kant<sup>80</sup>) that our knowledge of nature is constrained by limits on our senses and filtered through our brains; that our knowledge is necessarily interpretive, however much we strive to connect directly to things-in-themselves. As the American pragmatists had put it, our knowledge of nature was not a matter of certainty but of greater or lesser degrees of confidence. And as Leopold knew, confidence levels varied enormously.

Repeatedly, Leopold sought to disabuse audiences of their assumptions about science's accomplishments and prospects. "The ordinary citizen today," he observed, "assumes that science knows what makes the community clock tick; the scientist is equally sure he does not. He knows that the biotic mechanism is so complex that its workings may never be fully understood."<sup>81</sup> "As a matter of fact," he commented on another occasion, "the land mechanism is too complex to be understood, and probably always will be. We are forced to make the best guess we can from circumstantial evidence."<sup>82</sup> And again: "The land-mechanism, like any other mechanism, gets out of order . . . . Science understands these disorders superficially, but it seldom understands why they occur. Science, in short, has subjugated land, but it does not yet understand why some lands get out of order, others not."<sup>83</sup> Leopold was particularly irritated by those who claimed to know which species were valuable and which could be lost without cost to people, a question that mixed scientific fact with normative judgment. Early ecologists may have embraced that conceit, Leopold acknowledged, but they were wrong:

Economic biology assumed that the biotic function and economic utility of a species was partly known and the rest could shortly be found out. That assumption no longer holds good; the process of finding out added new questions faster than new answers. The function of

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80. TARNAS, *supra* note 65, at 345–46, 417–18.

81. LEOPOLD, *A SAND COUNTY ALMANAC*, *supra* note 3, at 205.

82. LEOPOLD, *Conservation: In Whole or in Part?* in RMG, *supra* note 2, at 315.

83. LEOPOLD, *Planning for Wildlife*, in FHL, *supra* note 3, at 194.

species is largely inscrutable, and may remain so.<sup>84</sup>

Yet even as he recognized these limits on human powers, Leopold realized that people had to act; they had to make decisions based on the conclusions they could draw. The sensible approach, he believed, was to employ our best science, even as we recognized its deficiencies and pushed for further research. Leopold was particularly insistent that scientists step forward, playing the role of citizen as well as expert, and offer their best professional judgment on what it took to sustain the land's health. Unless they did so, nonscientists who knew even less would take the lead. He made the point when ending a presentation on land health as an overall conservation goal:

These then are my personal guesses as to the conditions requisite for land-health. Some of them step beyond "science" in the narrow sense, because everything really important steps beyond it . . . Objectivity is possible only in matters too small to be important, or in matters too large to do anything about.<sup>85</sup>

Perhaps most striking in Leopold's comments on the capacities of science was his frequent claim that scientific inquiry needed to be informed and inspired by sources outside it, particularly by arts and the imagination. Indeed, he seemed at times to agree with Plato's view (as summarized by a modern commentator) "that the imaginative faculty, both poetic and religious, was as useful in the quest for attaining knowledge of the world's essential nature as any purely logical, let alone empirical, approach."<sup>86</sup> Leopold illustrated his approach when describing an autumn landscape in the north woods, a landscape that was not complete, in his view, without the presence of the ruffed grouse. The significance of the grouse, he asserted, was "inexpressible in terms of contemporary science"; it arose because the grouse embodied an "imponderable essence" that philosophers termed the *noumenon*, an essence "in contradistinction to *phenomenon*, which is ponderable and predictable, even to the tossings and

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84. LEOPOLD, *A Biotic View of Land*, in RMG, *supra* note 2, at 267.

85. LEOPOLD, *The Land-Health Concept and Conservation*, in FHL, *supra* note 3, at 226.

86. TARNAS, *supra* note 65, at 15.

turnings of the remotest star.”<sup>87</sup> As Leopold stressed to professional colleagues, he hoped that “the senseless barrier between science and art may one day blow away.”<sup>88</sup>

Part of Leopold’s concern with sole reliance on empirical science stemmed from his recognition that science standing alone was relatively devoid of values.<sup>89</sup> It was a tool that one could use for either good or ill. He thus agreed, it seems, with the assessment of his contemporary Joseph Wood Krutch:

Though many have tried, no one has ever yet explained away the decisive fact that science, which can do so much, cannot decide what it ought to do, and that the power which it confers must be guided by something outside it, if power is not to become—as it is already becoming—an end as well as a means.<sup>90</sup>

C. *An organic whole, or collection of parts?*

Leopold explained repeatedly that nature exists as an organized community of interdependent, co-evolving life forms. In doing so, he strongly countered those who spoke of nature as a collection of parts, as a warehouse of resources for humans to manage as they saw fit. Leopold’s organic view was hardly new; indeed, it represented perhaps the dominant perspective in all of human history. It bore similarities, for instance, with the German philosophic tradition (which resisted the atomism of French and Anglo-American liberals) and the views of ancient Stoics who, according to one historian, understood the whole of the universe as ordered and animate:

For the Stoics, the structure of the world—the cosmic

87. LEOPOLD, *A SAND COUNTY ALMANAC*, *supra* note 3, at 138.

88. LEOPOLD, *The State of the Profession*, in RMG, *supra* note 3, at 277.

89. The idea is implicit in many of Leopold’s discussions, particularly to scientists. *E.g.*, LEOPOLD, *Engineering and Conservation*, in RMG, *supra* note 3, at 254. A particularly sharp stab at science was offered in his meditation on the loss of the passenger pigeon:

Time was when the aim of science was to understand the world, and to find how man may live in harmony with it. If I read Darwin right, he was more concerned with knowledge than with power. But science, as now decanted for public consumption, is mainly a race for power, with industry as its aim and end. Science has no respect for the land as a community of organisms, no concept of man as a fellow-passenger in the odyssey of evolution.

Aldo Leopold, *On a Monument to the Pigeon* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 9, folder 7, p. 760.

90. JOSEPH WOOD KRUTCH, *THE MEASURE OF MAN* 31 (1954).

order—is not merely magnificent, it is also comparable to a living being. The material world, the entire universe, fundamentally resembles a gigantic animal, of which each element—each organ—is conceived and adapted to the harmonious functioning of the whole.<sup>91</sup>

The Stoic tendency was to see this natural order a perfect one.<sup>92</sup> Leopold made no such claim of perfection, nor did he contend like Plato that nature's order was shaped and guided by "a wondrous regulating intelligence."<sup>93</sup> Closer to Leopold, then, were perhaps Romantics of the eighteenth and nineteenth centuries who, in more secular ways, stressed the organic wholeness of nature and its ineffable mystery.<sup>94</sup> Leopold's view, though, drew more on science and incorporated nature's dynamism—an awareness that species came and went and that biotic communities were inexorably pushed and rearranged by geological and climatic forces. The natural world that Leopold sensed was ever shifting, yet it was an interdependent functioning whole nonetheless.

Leopold, in the early 1920s, took an interest in the unusual philosophic writings of Piotr Ouspensky, a Russian philosopher-mystic whose major work, *Tertium Organum* (appearing in English in 1920), contended that nature in its wholeness was infused with spirit and intelligence.<sup>95</sup> The mystic's assertions apparently resonated with Leopold, yet his own views may have been closer to those of Frenchman Henri Bergson, whose influential *Creative Evolution*, dated from 1907. Bergson argued that evolution and thus the life-creating process, was powered—if not guided—by vital impetus (*élan vital*), a mysterious life force that pushed nature to ever higher forms of complexity.<sup>96</sup> Leopold did not overtly embrace Bergson's thought, nor that of any other vitalist. Yet like Bergson he seemed at times unwilling to view nature in strictly material terms. Some force—perhaps Bergson's *élan*

91. LUC FERRY, *A BRIEF HISTORY OF THOUGHT* 20 (2010).

92. As Cicero asserted, "it remains no less true that nothing is more perfect than this world." *Id.* at 22.

93. Quoted in TARNAS, *supra* note 65, at 44.

94. *Id.* at 366–67.

95. See NEWTON, *supra* note 1, at 78–79; MEINE, *supra* note 1, at 214–15.

96. FRANKLIN L. BAUMER, *MODERN EUROPEAN THOUGHT: CONTINUITY AND CHANGE IN IDEAS 1600–1950*, at 375–76 (1977).

vital, perhaps something else—brought the physical stuff of nature to life, creating an organism that was possibly more than the sum of its parts.

As he sought to make sense of nature, Leopold was certainly not an explanatory reductionist; like most contemporaries he knew nature could not be explained by describing its parts in isolation. Much like the tissues that composed an organism, the parts of a land community gave rise in their interactions to emergent properties and forms of functioning that were not present in any of the parts in isolation.<sup>97</sup> Yet at moments Leopold seemed to push beyond the emergentist stance to suggest that nature had more than just physical parts and novel properties created by the interaction of those parts; that there was something intangible if not spiritual also present, permeating and animating the whole. In any event, Leopold's thought bore similarities with those of contemporary critics such as the humanist Louis More, who castigated mechanistic science for its seemingly inevitable tendency "to investigate all phenomena quantitatively, and to view the whole universe as a vast and measurable machine."<sup>98</sup> As thus constrained, science was morally, aesthetically, and spiritually corrosive.

Particularly in his late years, Leopold opened himself to nature as fully as he could and invited others to do so by listening to its music, absorbing its forms and colors, and imagining all that remained hidden from view. In this regard we might compare his work with Mark Twain's *Huckleberry Finn* and Twain's explorations of ways to know the river.<sup>99</sup> Twain, a former boatman, knew the pilot's way of seeing the river, objectively attending to its physical moves and respecting its raw power. Yet there was also the way of passenger and poet, swept along with the river's majesty and beauty, for whom the river was more than a flow of water;

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97. See, e.g., LEOPOLD, *The Farmer as a Conservationist*, in RMG, *supra* note 2, at 257–58 (comparing the interactions of biological parts in a community to the generation of power that arises when metal, air, petroleum, and electricity are combined to create an engine); LEOPOLD, *Conservation: In Whole or In Part?* in RMG, *supra* note 2, at 310 (explaining healthy functioning as a property arising at the community level).

98. LOUIS TRENCHARD MORE, *The Pretensions of Science*, in HUMANISM AND AMERICA: ESSAYS ON THE OUTLOOK FOR MODERN CIVILISATION 3, 7 (Norman Foerster ed., 1930).

99. LEO MARX, *THE MACHINE IN THE GARDEN: TECHNOLOGY AND THE PASTORAL IDEAL IN AMERICA* 319–340 (1972).



more even than a community of life. Perhaps, in the end, this is what Leopold meant to suggest; not that nature in its wholeness contained intangible elements, but simply that it inspired awe, that it awakened within humans senses that could come from no other source.

*D. Standards of truth, and the need for action*

Leopold's awareness of human ignorance and the inevitable, endless limits on science led him to a state of unease when it came to deciding whether to embrace a new fact about nature. The scientist in him undoubtedly wanted a high degree of proof, enough evidence to support a conclusion to a high level of confidence. Still, he seemed troubled by this perspective when it came to accepting evidence of our misuse of nature and particularly when crafting a normative vision of land health. It was evident enough that humans were sapping the health of landscapes. Remedial action was thus urgently needed. Could that action wait until scientists had great confidence in their findings of land sickness? Could managers postpone deploying improved methods of land use until researchers had higher confidence in their benefits? In the research laboratory a high barrier to truth often brought benefits. But might lesser standards of truth be used in the face of widespread decline and the need to make changes?

The scientific ideal of truth, the one Leopold would have absorbed from his studies, defined truth in terms of correspondence with physical reality: a fact about nature was true insofar as it mirrored the physical world, without human distortion. Leopold knew, however, that scientists worked incrementally, building upon facts that they accepted as true. The likelihood that a new, proposed fact was true therefore turned in part on whether it fit together with other facts that seemed true. This approach borrowed from a different definition of truth, one that tested a proposed fact in part based on whether it fit together sensibly with all else that was accepted as true. This second definition—the coherence theory of truth—was typically not an ultimate definition; it did not displace truth as complete correspondence. It was instead a more practical, expedient approach to truth in which it made sense to accept and act upon a fact that cohered with other truths, even as the quest continued for correspondence-based truth. Researchers with no other duties might get by with insistence on truth as correspondence. But land managers and

conservationists were differently placed. Indeed, it could be costly to make decisions based solely on facts proven with very high reliability and overlooking the many gaps. Better land-use results would often come by accepting a less lofty level of proof.

Leopold understood that scientific understandings evolved over time by means of a process that was never ending, as one set of ideas was augmented or displaced by another.<sup>100</sup> “All history shows this,” he told an engineering group in 1938, “that civilization is not the progressive elaboration of a single idea, but the successive dominance of a series of ideas.”<sup>101</sup> Leopold no doubt resisted the view of pragmatist Charles Sanders Peirce that truth was something that arose simply out of social consensus;<sup>102</sup> he thought too little of his de-natured fellow citizens to submit his findings to a plebiscite. He had a higher opinion, though, of his scientific colleagues, and knew that science was a group effort that proceeded by fits and starts.

Two aspects of Leopold’s attitude toward truth stand out most clearly, and they link him on this point to leading American pragmatists of the late nineteenth and early twentieth century.<sup>103</sup> Leopold’s research, as noted, was guided by a need to find ways for people to live on land without degrading it. It was purpose-driven, and the hour was late. The obvious approach was to act using the best current understandings, even as searches went on, not just for new knowledge, but to refine and replace conclusions that were tentatively accepted as true. To admit that ideas accepted as true today would be altered in the future did not undercut their comparative value today, so long as they moved people in a useful direction toward the normative goal of land health.

Pragmatists such as Peirce, William James, and John

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100. ALDO LEOPOLD, TICKS AND DEER: A LESSON IN CONSERVATION 977 (Dec. 5, 1944) (unpublished manuscript) (on file with the University of Wisconsin, Aldo Leopold Foundation) (asserting that prevailing public values tended to be stable, “[b]ut like all forms of truth, they are relative, and once in a while one becomes obsolete.”).

101. LEOPOLD, *Engineering and Conservation*, in RMG, *supra* note 2, at 253.

102. MENAND, *supra* note 74, at 200.

103. J. BAIRD CALLICOTT, ET AL., *Was Aldo Leopold a Pragmatist?: Rescuing Leopold from the Imagination of Bryan Norton*, 18 ENVIRONMENTAL VALUES 453 (2009) (Leopold’s views differed considerably from those of American pragmatists, being more radical, guided by a distinct understanding of nature, and a clear normative vision. He also distanced himself from the pragmatic claim—embraced unevenly by pragmatists—that truth was defined by social consensus).

Dewey did not abandon the popular view of truth as accurate correspondence with reality; it remained the ideal that science pursued. But with perfection impossible, it made sense in their view to assess competing ideas and assertions in terms of the consequences of acting upon them. "The true," William James said in his 1907 best-selling essay collection, "is the name of whatever proves itself to be good in the way of belief, and good, too, for definite, assignable reasons."<sup>104</sup> Truth, that is, was identifiable by the good consequences that it brought, given that, as Dewey put it, knowledge was inseparably connected to action.<sup>105</sup> "True ideas lead us into useful verbal and conceptual quarters as well as directly up to useful sensible termini," James contended.<sup>106</sup> "They lead to consistency, stability and flowing human intercourse. They lead away from excentricity and isolation, from foiled and barren thinking."<sup>107</sup>

As pragmatism's many critics would point out, an ends-oriented test for judging truth was usable only when judges possessed a normative standard for evaluating the goodness or morality of outcomes; only when they possessed, to use James's quoted words, "definite, assignable reasons"<sup>108</sup> for favoring the outcome. Pragmatism itself could not formulate such standards. For Leopold, however, a standard was ready at hand, and in his embrace of his standard he distanced himself from the era's pragmatists. Human life was good, human flourishing was good, and people today should keep land productive for future generations. These values were adequate to serve as a normative standard. With them, he could determine whether competing understandings of nature, once put into practice, brought good results.<sup>109</sup>

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104. WILLIAM JAMES, *PRAGMATISM: A NEW WAY FOR SOME OLD WAYS OF THINKING* 76 (1907).

105. MENAND, *supra* note 74, at 322 (according to Menand, Dewey viewed the distinction between knowing and doing "socially pernicious as well as philosophically erroneous.").

106. JAMES, *supra* note 104, at 215.

107. *Id.*

108. James, *supra* note 104, at 76.

109. Leopold's normative vision of land health, as explained, was a peculiar one during his day, which is to say his partial embrace of pragmatic principles led to different, more radical conclusions. This discussion of Leopold's views assumes that Leopold embraced new ideas about land and conservation when he thought that they were true. On another reading, however, he embraced them, not because they were true, but because truth was at the time unknown, guesses had to be made, and he

*E. A good that transcends preferences*

Leopold's land ethic called for landowners and others to live in ways that sustained land health. It was thus derivative of, and a measure intended to implement, his proposed conservation goal.<sup>110</sup> The land ethic, as Leopold explained, "reflects a conviction of individual responsibility for the health of the land."<sup>111</sup> In his essay on the ethic Leopold summed up his goal of land health by referring to maintenance of the "integrity, stability, and beauty" of the land (biotic) community.<sup>112</sup> Leopold defined his terms in ways quite different from current usages, and it has been easy for readers today, using contemporary definitions, to misunderstand Leopold's meaning. Fortunately his meanings have been made clear.<sup>113</sup>

By phrasing his ethic as he did Leopold distanced himself considerably and radically from ethical norms that respected and protected the individual human as an autonomous being. The welfare he promoted was the welfare of the community as such, the community of which humans were a part. Humans benefitted from this ethic indirectly, by their participation in the land community and the gains they got from its long-term health. Here, too, Leopold countered liberal individualism in both its conservative (pro-free enterprise) and more liberal (pro-individual flourishing) forms.

Leopold's attitude toward values and ethics was complex. His ethic called for humans to forge emotional ties with the

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believed his guesses were better than competing ones.

110. Leopold's popular land ethic was largely ignored as a serious philosophic claim until the 1980s, when it was first carefully explored and situated in the literature of philosophy by Professor J. Baird Callicott. (His early writings are collected in his *IN DEFENSE OF THE LAND ETHIC*, *supra* note 7.) Since then, his ethic has become perhaps the single most important ethical stance in the field of environmental ethics. Callicott's work, in a sense, duplicated that of historian Susan Flader a decade and a half earlier, when in her study of Leopold's conservation writings she situated him within, and indeed at the forefront of, ecological research in his day. *See* FLADER, *supra* note 3. Flader's conclusion was seconded and more fully supported by Julianne Newton, *see* NEWTON, *supra* note 1, at 200–06, who highlighted as particularly pathbreaking Leopold's 1939 plenary address to a joint meeting of the Society of American Foresters and the Ecological Society of America. LEOPOLD, *A Biotic View of Land*, in RMG, *supra* note 2, at 266–73.

111. LEOPOLD, *A SAND COUNTY ALMANAC*, *supra* note 3, at 221.

112. *Id.* at 224–25.

113. NEWTON, *supra* note 1, at 337–43, 346–49.

land—to use it with “love and respect,”<sup>114</sup> an ethical stance that seems to draw upon sentiment and virtue-based ethical theories of Christianity (and, nearer to Leopold, Hume).<sup>115</sup> At the same time, he made clear that human survival was at stake and that the pursuit of land health was necessary for human life to continue flourishing. This claim sounded in utility and thus resembled the views of Bentham and Mill (particularly the latter, since Leopold recognized qualitative as well as quantitative differences in alternative outcomes).<sup>116</sup>

The key to categorizing Leopold is to start with his view of humans embedded in the land community, a community that could be more or less healthy. The health of this community he embraced not just as the best conservation goal, but as an expression of the common good. Importantly, Leopold never made normative use of individual-rights rhetoric and he viewed property rights in particular as subordinate to the common good of land health. He thus seemed to adhere, in this setting, to the utilitarian view that individual rights were derivative of the common good; that is, to the view that society properly recognized and protected individual rights because and to the extent they promoted public welfare.<sup>117</sup> There was thus no call, in Leopold's view, to talk about a conflict between, or a balancing of, public and private interest. Put otherwise, Leopold suggested that the individual human, when interacting with nature, was understood first and best, as an interdependent member of the land community.

With his organic communal vision in hand it made sense for Leopold to conclude that an individual, particularly a landowner, needed to strive to fit into the natural order. Leopold's stance is easily linked to the perspective of ancient Greek thinkers for whom “one of the ultimate aims of a human life [was] to find its rightful place within the cosmic order”; “to adjust and orientate ourselves to the *cosmos*,” as Roman Stoics later phrased it.<sup>118</sup> For most ancient philosophers, nature was

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114. LEOPOLD, A SAND COUNTY ALMANAC, *supra* note 3, at viii.

115. RICHARD NORMAN, THE MORAL PHILOSOPHERS 71–93 (1983) (describing the virtue-based ethical theories of Hume).

116. JOHN STUART MILL, UTILITARIANISM 8, 12 (Barnes & Noble ed., 2005) (1st ed. 1861).

117. *Id.* at 55–57.

118. FERRY, *supra* note 91, at 24, 28.

viewed as good and as such provided standards for human behavior that were external and superior to humankind.

Broadly speaking, the good was what was in accord with the cosmic order, whether one willed it or not, and what was bad was what ran contrary to this order, whether one liked it or not. The essential thing was to act, situation-by-situation, moment-by-moment, in accordance with the harmonious order of things, so as to find our proper place, which each of us was assigned within the Universal.<sup>119</sup>

Also useful in framing Leopold's perspective is a Kantian view: "first, the idea that moral virtue resides in actions that are disinterested and not for private or selfish gain; and second, that these are directed towards the common and 'universal' good."<sup>120</sup> In Kantian terms, it was an easy step to turn the pursuit of land health—the universal good not just for humans but for the entire land community—into a moral duty imposed on landowners and others. It was similarly easy to criticize individual actions motivated (as Marx and Engels famously phrased it) by "naked self-interest," by "the icy water of egotistical calculation."<sup>121</sup>

Leopold wanted nothing to do with claims of free-marketers that the market could somehow turn private selfishness into public virtue; he knew perfectly well that market-driven landowners often degraded their lands. Bad results came, he explained in an important talk in 1939, when "[e]verybody worried about getting his share; nobody worried about doing his bit."<sup>122</sup> Only with the widespread embrace of a land ethic would private land uses line up with public virtue. Only in that way would society achieve the utopian vision sketched much earlier by John Stuart Mill, Karl Marx, and others, a vision in which the interests of the individual and society came into alignment and citizens found their happiness by doing work that benefitted everyone.<sup>123</sup> This, he believed, was the only

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119. *Id.* at 31 (emphasis omitted).

120. *Id.* at 117. See generally NORMAN, *supra* note 115, at 94–123.

121. KARL MARX & FREDERICK ENGELS, *THE COMMUNIST MANIFESTO* 37 (Verso ed., 1998).

122. LEOPOLD, *The Farmer as a Conservationist*, in RMG, *supra* note 2, at 265.

123. MILL, *UTILITARIANISM*, *supra* note 116, at 17, 19; PETER SINGER, *MARX: A VERY SHORT INTRODUCTION* 80–84 (2000).

route to a happy future time when, in Marxist terms, individuals would “realize themselves in and through the self-realization of others.”<sup>124</sup>

At times, Leopold seemed to view land health as something like an objective ideal that existed independently of human knowledge and choice. This idealist view, even during the horrors of World War II, was by no means dead.<sup>125</sup> But Leopold knew that nature did not exist simply for the benefit of humans, nor was nature in any sense a caring entity. It operated inexorably in ways that benefited some species and led to extinction for others; as he observed in a 1941 presentation, paleontology was “a book of obsequies for defunct species.”<sup>126</sup> In that light, land health was a human-created norm, albeit derived from nature’s functioning. It was thus not a fact about nature—not a conclusion of science—but instead became an ideal through conscious human choice. Leopold would likely have given his amen to his contemporary Lewis Mumford’s observation:

Man’s chief purpose, then, is the creation and preservation of values: that is what gives meaning to our civilization, and the participation in this is what gives significance, ultimately, to the individual human life. Only in so far as values are fostered—through art and religion and science and love and domestic life—can men effectively use the machines and powers that have enabled them to tame nature and secure human existence from the worst outrages and accidents that forever threaten it. Civilization, our very capacity to be human, rests on that perpetual effort.<sup>127</sup>

Joseph Wood Krutch expressed the same point from a slightly different angle a few years after Leopold’s death: “Belief in the reality of values and in man’s ability to recognize or to establish them is a sine qua non for any world which is to remain what has previously been thought of as human.”<sup>128</sup>

124. TERRY EAGLETON, *WHY MARX WAS RIGHT* 86 (2011).

125. See generally CLIVE S. LEWIS, *THE ABOLITION OF MAN, OR REFLECTIONS ON EDUCATION WITH SPECIAL REFERENCE TO THE TEACHING OF ENGLISH IN THE UPPER FORMS OF SCHOOLS* (1943).

126. LEOPOLD, *Ecology and Politics*, in RMG, *supra* note 2, at 281.

127. LEWIS MUMFORD, *FAITH FOR LIVING* 208 (1940).

128. KRUTCH, *supra* note 90, at 257.



Values had to be chosen by people who made them their own. Guided by his knowledge, drawing upon his attachment to enduring life, Leopold was clear in his choice.

Leopold, in sum, engaged in modes of thinking that put him apart from most dominant strands of thought in his day. Taken as a whole, his package of ideas was both radical and action-oriented. He rejected liberal claims of individual autonomy and strong claims of human exceptionalism in the natural world. Though a scientist, he doubted our ability to know and translated that humility into a call for restraint. Nature, he insisted, was best understood as a complex, organic whole—a community of life—that included humans and upon which, humans in the long-run depended for their flourishing. Given limits on knowledge, given the need to remedy land misuses, Leopold was willing to take action based on his best scientific guesses—perhaps suggesting an embrace of a pragmatic definition of truth, but perhaps simply realizing that the best guesses of scientists were better than continuing with clearly misguided assumptions. And then there was his normative vision, so contrary to individual ethics, a normative vision that placed value in the organic whole and linked human welfare to the flourishing—the health—of that whole.

### III. A RADICAL STANCE

Leopold in his conservation talks tended not to go into the matter of implementation—how society might go about promoting the goal of land health—except to contend (as he did in his fourth main point) that a radical change in culture was essential. He did make clear, however, that society could not rely on market forces to achieve the goal. Conservation measures sometimes benefitted individual landowners, but often the benefit went only to the community as such, and even then, future generations needed to be part of the calculation. “Conservation, at bottom,” he noted at a 1947 dinner honoring a colleague, “rests on the conviction that there are things in this world more important than dollar signs and ciphers.”<sup>129</sup>

Given that much conservation only benefited the

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129. Aldo Leopold, *The Statesmanship of E. Sydney Stephens 1227* (Sept. 15, 1947) (unpublished manuscript) (on file with the University of Wisconsin, Aldo Leopold Foundation).

community, not the private landowner:

It follows that if conservation on private lands is to be motivated solely by profit, no unified conservation is even remotely possible. Community welfare, a sense of unity in the land, and a sense of personal pride in such unity, must in some degree move the private owner, as well as the public.<sup>130</sup>

And again:

If cash profit be the only valid motive for decent land-use, then conservation is headed for catastrophic failure. Good land-use is a balance between utility and esthetics. It yields a highly variable mixture of individual and community profits, of cash and unponderable profits, and all accrue from investments which vary from borrowed cash on one hand to mere loving care on the other . . . . This being the case, conservation education should rest its argument on decency and social behavior, rather than on profits alone.<sup>131</sup>

As he commented on the failings of the market, Leopold did not blame it as an institution. He understood that it merely helped individuals as such get what they wanted. If individuals changed their wants, embracing something like his land ethic, the market would be much less problematic. He made the point in a 1942 talk:

What we call economic laws are merely the impact of our changing wants on the land which supplies them. When that impact becomes destructive of our own tenure in the land, as is so conspicuously the case today, then the thing to examine is the validity of the wants themselves.<sup>132</sup>

With frustration and occasional anger, Leopold also dismissed the idea that real change could occur simply by giving people the facts so they could see how and when their activities caused harm. Evidence of harm alone, Leopold had come to see, simply did not have much effect. This point was

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130. LEOPOLD, *Conservation: In Whole or in Part?* in RMG, *supra* note 2, at 317.

131. Aldo Leopold, *Conservation and Politics* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 6, p. 633.

132. LEOPOLD, *The Role of Wildlife in a Liberal Education*, in RMG, *supra* note 2, at 303.

strongly made in the beginning of a writing that Susan Flader dates to the mid-1940s, a writing that Leopold likely would have toned down had he continued to work on it:

“If the public were told how much harm ensues from unwise land-use, it would mend its ways.” This was once my credo, and I still think it a fairly accurate definition of what is called “conservation education.” Behind this deceptively simple logic lie three unspoken but important assumptions: (1) that the public is listening, or can be made to listen; (2) that the public responds, or can be made to respond, to fear or harm; (3) that ways can be mended without any important change in the public itself. None of the three assumptions is, in my opinion, valid.<sup>133</sup>

At times Leopold’s pessimism did slip into not just public presentations, but published versions of them. One occasion was his 1947 talk to a garden club, where he lamented the inability of even fellow conservationists to understand land as an interconnected community. “There is an important lesson here: the flat refusal of the average adult to learn anything new, i.e., to study,” he complained.<sup>134</sup> “This anger-reaction against new and unpleasant facts is of course a standard psychiatric indicator of the closed mind.”<sup>135</sup>

Leopold openly explored ways to bring public pressure to bear on land abusers, and called for boycotts (a “pinkish word,” he admitted to an audience in 1942) of products coming from misused land.<sup>136</sup> Yet even as he talked about such organized social pressure he knew that prospects for it were dim. A government official who saw his draft questioned whether such a social-pressure approach would really work better than the measures the federal government was then using. Leopold did not challenge the claim: “I have no illusions about the

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133. Aldo Leopold, *Conservation Education: A Revolution in Philosophy*, (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 6, p. 1107. On the dating, see FLADER, *supra* note 3, at 206.

134. LEOPOLD, *The Ecological Conscience*, in RMG, *supra* note 2, at 342–43.

135. *Id.*

136. Aldo Leopold, *Armament for Conservation* (Nov. 23, 1942) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 6, p. 691. Leopold omitted the word when he arranged his ideas for an article appearing in *Audubon Magazine*. Reprinted in LEOPOLD, *Land-Use and Democracy*, in RMG, *supra* note 2, at 295.

workability of my plan. It will work on with people who are really in earnest, and these are few. In many fields of conservation it will not work at all.”<sup>137</sup>

For a time Leopold also wondered whether cash-incentive programs might induce landowners to change their ways, and he briefly supported government programs that offered incentives. Leopold's hope, though, was that a landowner who by inducement began using land well would see the wisdom of good land use and voluntarily continue it when the payments stopped. Trials of the approach, however, were unpromising, as landowners tended to halt unprofitable activities the moment public support was ended. Leopold viewed the trials as failures and changed his thinking accordingly. He offered his new view in a talk to wildlife professionals in 1939:

I hasten to add that I no longer believe that a little “bait” for the farmer, either in cash, service, or protection, is going to move him to active custodianship of wildlife. If the wildlife cropping tradition is not in his bones, then no external force, either of my kind or any other kind, is going to put it there. It must grow from the inside, and slowly.<sup>138</sup>

Part of the problem was the institution of private property, which gave landowners too much freedom to use land in bad ways:

The present legal and economic structure, having been evolved on a more resistant terrain (Europe) and before the machine age, contains no suitable ready-made mechanisms for protecting the public interest in private land. It evolved at a time when the public had no interest in land except to help tame it.<sup>139</sup>

Private property was a useful, indeed indispensable, institution, but had to be reshaped culturally if not legally to

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137. Aldo Leopold to Walter John, Division of Education, U.S. Soil Conservation Service (Dec. 21, 1942), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 6, p. 708.

138. Aldo Leopold, Game Policy Model 1930 (Feb. 15, 1939) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 2, p. 316. By “wildlife cropping tradition” Leopold meant the practice of affirmatively managing land—mostly by enhancing habitat—so that the land supported wildlife populations. Particularly when talking to farmers, Leopold spoke of wildlife that reproduced on a farm as one of its several “crops.”

139. LEOPOLD, *Land Pathology*, in RMG, *supra* note 2, at 214.

push landowners to change their ways. “Viewing the field as a whole, we see one common denominator: regard for *community welfare* is the keystone to conservation,” he told a student group.<sup>140</sup> “Private land is only a stock certificate in a common biota. Private land-use must recognize an obligation to community welfare. No other motive has enough coverage to suffice.”<sup>141</sup> The point for Leopold was of prime importance, so much so that he inserted it as the first of only two elements in his 1946 proposed conservation platform for the new political party: “[T]he average citizen, especially the landowner, has an obligation to manage his land in the interest of the community, as well as in his own interest.”<sup>142</sup>

What Leopold recognized, after years of failed efforts at finding more simple solutions, was that ordinary people simply had to become better than they were according to his scale of values. A radical change was required in the ways people saw the land, valued it, judged its beauty, and understood their relationship to it and with one another. A similar view has recently come from John Bellamy Foster, one of today’s most acute observers of our environmental plight:

We must reject a social system that demands the fragmentation of all living things and substitute one that promotes wholeness. If we are to save the planet, the economics of individual greed and the social order erected upon it must give way to broader values and a new set of social arrangements, based on a sense of community with life on earth.<sup>143</sup>

Leopold knew that radical change did not come easily or quickly. Out of a well-conceived conservation program “may eventually emerge a land ethic,” he speculated.<sup>144</sup> “[B]ut the breeding of ethics is as yet beyond our powers. All science can do is to safeguard the environment in which ethical mutations might take place.”<sup>145</sup>

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140. Aldo Leopold, *Motives for Conservation* (undated lecture), Aldo Leopold Archives, *supra* note 4, at 10-6, box 14, folder 3, p. 434.

141. *Id.*

142. Aldo Leopold, *Conservation* (undated lecture), Aldo Leopold Archives, *supra* note 4, at 10-1, box 1, folder 14, p. 510. On Leopold’s work for the party, see *supra* text at notes 44–46.

143. JOHN BELLAMY FOSTER, *ECOLOGY AGAINST CAPITALISM* 59 (2002).

144. LEOPOLD, *Land Pathology*, in RMG, *supra* note 2, at 215.

145. *Id.*

At times, Leopold clearly wondered whether there was any way this could come about, given the stubborn resistance of even highly educated people. As he queried in one draft: "Is the complete modern, duly equipped with a social conscience, a set of new tires, a Ph.D in economics, and a complete ignorance of the land he came from, capable of forming a stable society?"<sup>146</sup> But gloom did not dominate; as he put it in a letter to colleague Bill Vogt, "[t]hat the situation is hopeless should not prevent us from doing our best."<sup>147</sup> The change Leopold had in mind was hardly less radical than the ideas put forth by leading socialists. Ultimately, Leopold had to rest his faith in the ability of people to learn and evolve over time, just as did social advocates Beatrice and Sidney Webb: "Under any genuine democracy it is, in the last resort, public opinion that decides; and the more effectively public opinion is educated and the more weight is given to the findings of science, the greater will be the success of any administration."<sup>148</sup>

Leopold spoke along similar lines in a 1939 presentation:

Sometimes I think that ideas, like men, can become dictators. We Americans have so far escaped regimentation by our rulers, but have we escaped regimentation by our own ideas? I doubt if there exists today a more complete regimentation of the human mind than that accomplished by our self-imposed doctrine of ruthless utilitarianism. The saving grace of democracy is that we fastened this yoke on our own necks, and we can cast it off when we want to, without severing the neck. Conservation is perhaps one of the many squirmings which foreshadow this act of self-liberation.<sup>149</sup>

In short, people simply had to reorient themselves to land, coming, as he had, to love and respect it and to embrace other creatures as fellow community members. He summed up his conclusion in a talk to students around 1947:

If the individual has a warm personal understanding of

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146. Aldo Leopold, *The Role of Wildlife in Education* (undated) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 17, folder 13, p. 1315.

147. Letter from Aldo Leopold to William Vogt (undated), Aldo Leopold Archives, *supra* note 4, at 10-2, box 4, folder 11, p. 911.

148. SIDNEY & BEATRICE WEBB, *THE DECAY OF CAPITALIST CIVILIZATION* 192 (1923).

149. LEOPOLD, *The Farmer as a Conservationist*, in RMG, *supra* note 2, at 259.

land, he will perceive it of his own accord that it is something more than a breadbasket. He will see land as a community of which he is only a member, albeit now the dominant one. He will see the beauty, as well as the utility, of the whole, and know the two cannot be separated. We love (and make intelligent use of) what we have learned to understand.<sup>150</sup>

He could only hope that his dream of a reformed humankind might one day come true.

#### IV. CONCLUSION: A NEW DIRECTION?

Leopold was ceaselessly impressed by the ingenuity of the modern human, particularly his cleverness in developing new products and technologies. He was equally impressed in far different ways by the seeming inability of the modern human to mature in his emotions, aesthetics, and ethical ideals. He reflected on this seeming mismatch as he concluded a talk in 1938:

We end, I think, at what might be called the standard paradox of the twentieth century: our tools are better than we are, and grow better faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it.<sup>151</sup>

Humans could fulfill this oldest task only if they changed their ways significantly. For that to happen they simply had to become much different people. As he went about describing the kind of person needed, Leopold ended up challenging dominant strands of Western culture since the Enlightenment, particularly the ideal of the autonomous, rights-wielding individual who could pursue his self-interest subject only to modest limits. The whole picture was wrong, Leopold proclaimed. We are fundamentally parts of something larger, plain citizens of the land community, and our first duty is to live as responsible members of that community. Reason could help us along, but we also needed much different values and aesthetic sensibilities; sounder emotions, as Rousseau had

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150. LEOPOLD, *Wherefore Wildlife Ecology?* in RMG, *supra* note 2, at 337.

151. LEOPOLD, *Engineering and Conservation*, in RMG, *supra* note 2, at 254.



argued long before, were an indispensable part.<sup>152</sup> We certainly needed to cast aside the silly claim that the market could consistently turn land-use vice into healthy virtue; the evidence against that folly was simply overwhelming. Of course we needed new understandings about private property and the rights of ownership. But laws arose out of popular sentiment, so popular sentiment had to change first. Therein lay the root cause of ecological degradation. Conservation policies could succeed only insofar as they directly aimed at that root cause; only when they directly aimed at helping people become responsible, content members of the land community.

Leopold was not unaware that democracy had its critics, that for nearly three centuries commentators from various quarters viewed it with suspicion because it lacked the power to keep ordinary wayward people in line. Leopold raised the issue in a talk when America's fortunes in World War II were dark. "Hitler's taunt that no democracy uses its land decently," he stressed, "while true of our past, must be proven untrue in the years to come."<sup>153</sup> But what could be done to prove it untrue?

Leopold's path was the path recommended by Socrates, Aristotle, and countless writers since then. Ideas had to be put out for public discussion and subjected to criticism. People who saw more clearly than others needed to present their arguments forcefully and push the discussion. Over time, solid facts and arguments would carry the day, or so one hoped.<sup>154</sup> Socrates thought so highly of humans that he believed no one who knew what was good would fail to keep to the good;<sup>155</sup> the path to virtue was thus the path to enlightenment. Leopold by no means embraced this view, but he nonetheless stuck to the path of education and public discussion, hoping that in some

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152. TARNAS, *supra* note 65, at 312–13.

153. Aldo Leopold, *Armament for Conservation* (Nov. 23, 1942) (unpublished manuscript), Aldo Leopold Archives, *supra* note 4, at 10-6, box 16, folder 6, p. 693.

154. This optimistic view has, of course, been challenged. *See, e.g.,* MILL, *supra* note 78, at 34–35 ("[T]he dictum that truth always triumphs over persecution is one of those pleasant falsehoods which men repeat after one another till they pass into commonplaces, but which all experience refutes . . . It is a piece of idle sentimentality that truth, merely as truth, has any inherent power denied to error of prevailing against the dungeon and the stake.").

155. TARNAS, *supra* note 65, at 34.

unforeseeable way, perhaps through some invisible force of evolutionary pressure, better people would emerge.

Meanwhile and in the shadows, there was the alternative way described by Karl Marx and others. Like Leopold, Marx believed that to achieve progress in human affairs, “nothing short of a radical transformation of human nature would suffice.”<sup>156</sup> Marx, though, disagreed with utopians of his own day who thought that opponents could be won over purely through argument.<sup>157</sup> Society was not a battle of ideas, whether based in fact or on moral grounds. Economic forces and practices were in charge; the modes of production were what formed the base upon which all else—ways of thinking, social organizations, and more—arose. Without fundamental change in the economic system, in the modes of production, the existing order would remain and prevailing ideas and values would persist.

Reading Leopold today one cannot help but wonder what might have happened had the conservation movement of Leopold’s day, and since, listened to his last talk and taken heed. As events unfolded, though, conservation continued on the trajectory that Leopold criticized, attending to the specifics of land and resource-use practices and, around 1960, taking on a stronger concern with pollution and contamination.<sup>158</sup> The movement remained fragmented with groups working at cross purposes. It never took on anything like an overall goal, Leopold’s or any other. The movement did not identify bad culture as the root of the problem, and made no real effort to change the ways people saw the land and their place in it. It did little to question the dominance of individual liberalism and autonomy and offered no conservation version of what private landownership ought to mean.

Today, as in Leopold’s day, people do not see the land as a community of which they are a part (message one); they do not realize that this community can be more or less healthy (message two); they do not see land health or anything like it

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156. SINGER, *supra* note 123, at 81.

157. EAGLETON, *supra* note 124, at 68.

158. Perhaps the leading historian of the movement has been Samuel P. Hays, whose written works include: *BEAUTY, HEALTH, AND PERMANENCE: ENVIRONMENTAL POLITICS IN THE UNITED STATES, 1955–1985* (1987), and *A HISTORY OF ENVIRONMENTAL POLITICS SINCE 1945* (2000).

as an overarching conservation goal and indispensable to long-term human welfare (message three). Leopold has been much cited while his main messages have not been taken to heart.

With the environmental cause stumbling—most vividly on the issue of climate change—perhaps the time has come to take a more radical stance as Leopold proposed (message four), a culturally radical stance that forcefully introduces new ways of thinking and valuing, new ways of understanding the human predicament, new ways of talking about burdens of proof and what qualifies as truth, and new ways of identifying the human good. Leopold believed that only radical cultural change could lead to a healthy future. The years since have not proven otherwise.

Leopold's most vivid presentation of the future he imagined came in the last few pages of a talk he delivered in 1939, a writing that stands as one of his best: *The Farmer as a Conservationist*.<sup>159</sup> Leopold presented the world view of his new American, an imaginary, ethically transformed farmer who embodied and lived the cultural changes that Leopold deemed essential. Leopold's portrait is alluring, but one senses that his transformed farmer could flourish only in an economic order far different from today's industrial capitalism. Were he alive today Leopold would likely recognize this truth, just as he would likely admit the insignificant success that conservation has achieved by calling on people, one by one, to change their ways.

Leopold the pragmatist was never reluctant to alter his conservation strategy when it failed to produce. Given today's failings, and given global declines in land health, what new calls for reform would he likely add to the messages of his still-sound last talk? What attack would he level at our dysfunctional political system? What vision would he offer of a new economic order? Perhaps above all, how would he translate his ecology-based critique of liberal individualism—as surely he would—into an insistence, finally, on no-nonsense collective action to forge a new world?

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159. LEOPOLD, *The Farmer as a Conservationist*, in RMG, *supra* note 2, at 255. I explore this essay, contrasting it with a work by Michael Pollan, in WHY CONSERVATION IS FAILING AND HOW IT CAN REGAIN GROUND 83–112 (2006).