8 * Building "The Land Ethic"

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When Aldo Leopold conceived his essay "The Land Ethic" he could not have foreseen the breadth of its influence. A generation has passed since the full essay first appeared in the pages of *A Sand County Almanac,* yet it continues to grow in importance. Students read it. Journalists quote it. Environmentalists live by it. Supreme Court Justices cite it. Scholars criticize it. Many readers have gained their first exposure to an ecological world view through it. Recently it has become a standard starting point for scholarly discussions of environmental ethics. In short, "The Land Ethic" has helped lead a generation in reassessing its relationship to the natural environment.

"The Land Ethic" is also Aldo Leopold's most enduring expression of his personal convictions. Written at the close of a varied career, the essay is a synthesis of his ideas and experience. Leopold was, in some respects, a paradoxical figure: a scientist who wrote poetry, a scholar who was most comfortable in the field, a conservative man who came to advocate a revolutionary idea. In his own life he was able to maintain the connection between emotion and reason; "The Land Ethic" was the final proof of that connection.

This essay is a narrative abstract of the author's Master of Science thesis (submitted and accepted at the University of Wisconsin–Madison in 1983), "Building the Land Ethic: A History of Aldo Leopold's Most Important Essay."

In light of these considerations, there is need for a more critical understanding of the process by which Leopold put together the words, thoughts, and arguments of "The Land Ethic."

"The Land Ethic" was first published in Part III of *A Sand County Almanac,* "The Upshot." It is the climactic essay of this third section—in effect, the upshot of "The Upshot." It is a summary piece in which the issues raised explicitly and implicitly throughout the book are finally distilled.[1]

As published, "The Land Ethic" reads as a single coherent statement which the author might have written over a short period of time. In fact, the essay was written in four phases over a fourteen-year period.

The opening parts of "The Land Ethic" are also the earliest written. Leopold derived most of the essay's first two subsections from an address he gave before a meeting of the American Association for the Advancement of Science in Las Cruces, New Mexico, on May 1, 1933. In this address, entitled "The Conservation Ethic," Leopold discussed the inability of economics-as-usual to deal with the basic problems of land abuse. The predominant economic "isms," Leopold wrote, lacked "any vital proposal for adjusting men and machines to land."[2] The corollary to this, he ventured, was that conservation contained seeds from which such a proposal might emerge. This address was first published in the *Journal of Forestry* in October of the same year.

A large portion of "The Land Ethic" draws on another address by Leopold, "A Biotic View of Land," delivered before a joint meeting of the Ecological Society of America and the Society of American Foresters in Milwaukee on June 21, 1939. It has been called "Leopold's earliest comprehensive statement of the new ecological viewpoint," and reflects Leopold's immersion in ecological research and reasoning during the 1930s.[3] In it, Leopold explained the ecological dynamics of the land community and argued for an approach to land use that respected these dynamics. He employed the land pyramid model to illustrate the "smooth functioning" of the community, asked whether human alterations of that community could be less "violent," and finally

pointed out trends in conservation that suggested that such "violence" in fact could be reduced. "A Biotic View of Land" first appeared in the *Journal of Forestry* in September 1939.

Leopold's discussion of the ecological conscience is taken from a third address, of that name, which was given before the Garden Club of America on June 27, 1947, in Minneapolis. In this speech, Leopold forcefully stated that, ultimately, conservation must spring from a sense of individual responsibility for the general health of the land. Citing four cases from his own experience in Wisconsin, Leopold held that conservation by government agency can only do so much, and that sound land use must rest upon the land user's own "ecological conscience." This address was first published in the *Bulletin of the Garden Club of America* in September 1947.

About one half of "The Land Ethic" was newly written specifically for the essay. A rough draft of "The Ecological Conscience" bears the date of that address's delivery, "6-27-47." The first reference to an essay called "The Land Ethic" appears in the "Foreword [to *Great Possessions*)" dated "7-31-47."[4] These texts allow us to point to July 1947 as the period in which Leopold, then in the final stages of work on the book as a whole, finally assembled and synthesized "The Land Ethic." The new portions of the essay were undoubtedly composed at this time.

"The Land Ethic," then, is neither a wholly new essay, nor a mere compilation of older material. Rather, it is a new expression of older thoughts, some of which were altered in the process, some not. In changing and bringing together previous statements, and in adding fresh ideas, Leopold created an argument stronger than the sum of its original parts, and in this, perhaps, lies the essay's enduring quality.

A careful comparison of "The Land Ethic" with its three antecedents reveals three categories of revisions. First, there are purely stylistic revisions. These occur throughout the essay and range from the grammatical and cosmetic to the rhetorical and poetic. Second, there are changes of emphasis and clarification. These also occur throughout the essay, but are especially prominent in the subsections The Community Concept, The Land Pyramid, and Land Health and the A-B Cleavage. Third, there

are changes that indicate deliberate shifts in tone and thought. The Land Pyramid is significantly altered in this regard, as, to a lesser degree, is The Community Concept.

In sum, these changes reveal Leopold speaking with a more confident voice, aiming for accuracy of expression, pulling his punches at several key points, and allowing his argument to speak for itself. There is an evident effort to broaden, in time and space, the scope of his ideas. Leopold was more strident in each of the original addresses; he is more direct in the final essay. The new portions of the essay share this measured quality.

"The Conservation Ethic" dealt primarily with the cultural and historical aspects of conservation; "A Biotic View of Land" dealt with the biological aspects, and "The Ecological Conscience" with what might be called the "personal" aspects. In each of these spheres, Leopold experienced a positive shift over the last fifteen years of his life. "The Conservation Ethic" was almost entirely a criticism of economic standards for determining land use; in "The Land Ethic" Leopold more actively asserts ethical standards. Leopold's preoccupation in the 1930s with what he termed "land sickness" and "violent use of land" gave way to a conception of "land health" and a call for "gentler and more objective" criteria in our use of land. Finally, Leopold's criticism of the role of government during the New Deal became its own inverse: a declaration of the individual's responsibilities in living on the land. By fusing these themes together, or, perhaps more accurately, by recognizing that they could not be severed, Leopold built his land ethic.

While "The Conservation Ethic" stands as Leopold's first important publication on the philosophical dimensions of conservation, only a small portion of the original actually survived Leopold's later incorporation of it into "The Land Ethic." His purpose in the original essay was to place the conservation movement firmly at the forefront of a historical trend—the tendency of ethical considerations to supercede purely economic ones. In conservation's tools and ideas Leopold saw the potential for a new, deeper, and more enduring relationship with land. To firm up this thesis, Leopold had first to explain in greater detail

how ethical systems expanded over time, and how conservation fit into the process. By 1947 Leopold had strengthened his supporting arguments, so that all he retained from "The Conservation Ethic" was the original introductory explanation of this "extension of ethics."

Leopold opens "The Land Ethic" with a three-paragraph allusion to Homer's *Odyssey,* illustrating his point that mankind's ethical structure can and does evolve. Taken directly from the opening of "The Conservation Ethic," this passage not only displays Leopold's familiarity with classical literature but emphasizes his historical perspective—already firmly established in the previous sections of *A Sand County Almanac*—and announces his intention of making a statement about cultural evolution.

The first of the seven subtitled sections of "The Land Ethic" is The Ethical Sequence. In a concise six paragraphs, Leopold addresses a complex subject: the relationship between ethics and biology and the course of that relationship through history. All of the text of The Ethical Sequence section is taken from "The Conservation Ethic." In the original it is not given a separate subtitle, but follows directly after the opening allusion to the *Odyssey.*

Several of the revisions of this text which Leopold made in 1947 are worth pointing out. Leopold changed the first paragraph of what became The Ethical Sequence only slightly, but significantly. "Biological," "biologically," and "biologist" in the original become "ecological," "ecologically," and "ecologist" in the reworked version. These substitutions seem to reflect Leopold's greater willingness to employ the term "ecology"—a word not in general circulation in 1933—as well as Leopold's own development as an ecologist in the intervening years.[5]

Leopold opened the original version of the third paragraph of The Ethical Sequence with two reiterative sentences on the evolution of ethics. They are deleted from "The Land Ethic." The only other substantial change in this paragraph is the substitution of "The Golden Rule" for the original "Christianity," reflecting, if nothing else, an attempt to be more specific.

The first sentence of the fifth paragraph is reworded, and two sentences describing specific instances of social injustice in China,

Germany, and Greece are deleted. His explicit claim in the 1933 version was that ecological "injustices" might arouse as much moral outrage in us as injustices in human society. This is a strong statement even today, and no less difficult to defend. Leopold may have thought that he was overstating his case at this point and digressing from the main line of the argument.

The original conclusion of The Ethical Sequence contained several key points about the relationship between science and ethics. "Some scientists," Leopold wrote in 1933, "will dismiss this matter [of a conservation ethic] forthwith, on the ground that ecology has no relation to right and wrong. To such I reply that science, if not philosophy, should by now have made us cautious about dismissals. . . . No ecologist can deny that our land relation involves penalties and rewards which the individual does not see, and needs modes of guidance which do not yet exist. Call these what you will, science cannot escape its part in forming them." He deleted these statements in 1947, an indication that he was keenly aware that he was entering dangerous philosophical waters. He knew well that, in the orthodox views of both philosophy and science, ethics and scientific inquiry were not even on speaking terms with one another. Leopold's firm belief was always that science and ethics, though distinct, could not be separated. In a sense, that was the entire point of "The Land Ethic."[6]

On the whole, Leopold's revisions of The Ethical Sequence were not extensive. He trimmed it a bit, removed some passages and clarified others, making it a more appropriate introduction to an essay wider in scope than the original. The changes suggest that Leopold was still trying to clarify his ideas on the natural basis of ethics, reflecting a broader ecological view of that basis. The several deletions in this section keep the discussion focused on the fundamental relationship among ethics, evolution, and ecology. The general purpose and plan of this section remain the same as in the original: to inform the reader that there is a historical growth of ethics toward an expanded conception of the social environment. Leopold explores that expanded community in detail in the next section, The Community Concept.

This second subtitled section of "The Land Ethic" defines and illustrates the land community. The first half of The Community Concept was newly written in 1947, and it contains two of the essay's more often-quoted passages:

> The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land. (204)

> In short, a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such. (204)

To substantiate this view of land as a community and man as a too-often-unware member of it, Leopold suggests that we look upon history not as a story of human enterprise alone, but as a complex tale of interaction between humanity's ambition and technique and the land's natural diversity and dynamism. The second half of the section, borrowed again from "The Conservation Ethic" of 1933, gives examples of this approach to history, citing European settlement of two very different North American environments: the mesic "canelands" of Kentucky and the arid ranges of the Southwest.

In 1933, Leopold had followed his discussion of the extension of ethics not with a broadened definition of the community per se, but with a section specifically subtitled Ecology—Its Role in History. When he revised the text in the summer of 1947, he first wrote out his new definition of community and only then returned to "The Conservation Ethic" for historical examples.

The original draft of the first eight paragraphs of The Community Concept is not extant, but it is safe to assume that this more abstract, philosophical passage was written just as Leopold was piecing the essay together in 1947. There are four such untraceable passages in "The Land Ethic," and all of them contain at least one reference to "a (or the) land ethic"; in the remainder of the essay, all of which *can* be traced to the three previous articles, the phrase does not occur even once. In fact, Leopold had never before used the term in his published works.

The assembling of The Community Concept exemplifies the

process Leopold went through in putting together "The Land Ethic" as a whole. The half of the section that had been on paper for fourteen years was still relevant, but the theme of that passage—a conservationist's view of human history—no longer stood on its own. In the revision it supports a more general idea which in the intervening years had become more important to Leopold—an ecologist's view of the land community—and which is emphasized in a brand new passage. The editorial changes Leopold made in reworking "The Conservation Ethic" for this section are mostly minor, but they reveal basic changes in his approach: he softened his words and made a definite effort to apply his argument to additional times and places.

Having defined his concept of the land community, Leopold in his next section, The Ecological Conscience, suggests that as long as conservation is construed to entail merely the wise use of natural resources, it will remain limited in overall effectiveness. Conservation that emphasizes only external changes, legislative acts, and technological fixes, Leopold argues, neglects the other half of the equation: the attitudes and values of the individual. He cites, as an example, the problems the Soil Conservation Service faced in the 1930s when it tried to encourage the farmers of southwestern Wisconsin to adopt soil conservation techniques. Leopold concluded that the conservation movement had not yet challenged individual values and beliefs to any significant degree.

This was a standard theme in Leopold's writing, particularly after the advent of the New Deal. He finally summarized his views in his address "The Ecological Conscience" on June 27, 1947. In the weeks that followed, he condensed the speech and included it in "The Land Ethic." Although Leopold borrowed the title "The Ecological Conscience" for use in "The Land Ethic," he does not there give a clear definition of the term. In the original, he had: "Ecology is the science of communities," he wrote, "and the ecological conscience is therefore the ethics of community life."[7]

Leopold originally presented "The Ecological Conscience" as a speech illustrated with slides. The bulk of the address involved four case histories of ineffective conservation efforts (one of

which was the soil conservation example). In condensing the original address, Leopold's editorial decisions were primarily rhetorical. The speech had been one of the most forcefully worded of his career, and he made an evident effort to tone it down, to move from stridency to calm concern. This shift is exemplified in the opening sentence of the section. He had originally written that "Everyone ought to be dissatisfied with the slow spread of conservation to the land." He replaced this somewhat sanctimonious assertion with his classic statement, "Conservation is a state of harmony between men and land (207)."

The enduring contribution of "The Land Ethic" to environmental philosophy is its clear conviction that the free individual must be responsible for and responsive to the land he or she lives upon. While Leopold had addressed this theme before, only with "The Ecological Conscience" did he reduce that conviction to its essentials. In "The Land Ethic," compiled soon after, we find it in a broader context. The presence of the surrounding argument and the desire to persuade a larger, less committed public may account for the "toning down."

"The Ecological Conscience," especially in its full-length address form, challenges the individual to assume responsibility for the health and decent use of the natural community. In Substitutes for a Land Ethic, the next section, Leopold describes what happens when economics (or "expediency") alone determines how that responsibility shall be discharged: most elements of the community (Leopold mentions, as examples, songbirds, predators, raptors, and noncommercial tree species) are ignored or even actively eliminated; whole communities (bogs, marshes, dunes) are read out of the purely economic landscape; government must step in to take over "all necessary jobs that private landowners fail to perform," a development Leopold considered cumbersome at best, ineffective at worst (213). According to Leopold, these situations will be remedied only when the private landowner assumes an ethical attitude toward land.

This is the second of the four portions of "The Land Ethic" that apparently were written as the essay was being synthesized. No part of this section shows up in Leopold's previously published works and no rough draft of it exists among Leopold's collected unpublished papers. The telltale phrase "land ethic" appears four times in this section, including once, of course, in the title.

The longest and least quoted section of "The Land Ethic" is The Land Pyramid. Here Leopold explains and applies the ecological model of the biotic pyramid. The first part of this section discusses the structure and function of the naturally evolved community, using basic ecological constructs: trophic levels, food chains, diversity and stability, and energy flow. Leopold next stresses how changes, evolutionary and technological, affect the smooth functioning of the ecosystem. Finally, Leopold gives a brief survey of human impacts on the world's biotas and assesses the effects of those conversions. He concludes that "the less violent the man-made changes, the greater the probability of successful readjustment in the pyramid" (220). Leopold characteristically ends the section by emphasizing our dim awareness of ecological dynamics.

Virtually all of The Land Pyramid is drawn from Leopold's 1939 "A Biotic View of Land." Its condensed version in "The Land Ethic" provides the scientific backbone to Leopold's argument.

Of all the sections of "The Land Ethic" that were based on previously published material, none was so minutely and carefully revised as this one. Most of the additions, deletions, substitutions, and rephrasings seem minor at the outset, but collectively they show Leopold striving for a concise expression of the complex scientific rationale behind "The Land Ethic." The heart of the discussion is Leopold's explanation of the relationship between structure and function in the ecosystem, an issue that remains a central point of debate among ecologists. The changes in this section show a sharper understanding of both stability and diversity, but no definitive conclusion about their relationship is reached. Several of the changes here also indicate that Leopold is speaking in a voice that is at once more confident and less aggressive. We see, again, an attempt to broaden the discussion to global dimensions. Above all, Leopold was aiming to clarify and focus his explanation.

The Land Pyramid explains in basic terms the structure and function of the land community. Land Health and the A-B Cleavage, the section that follows, explores conservation's internal tension as it tries to "understand and preserve" land health, defined by Leopold as the capacity for self-renewal. In three fields—forestry, wildlife management, and agriculture—Leopold notes the same division between "man the conqueror" and "man the biotic citizen": the former sees land solely as a producer of commodities, the latter sees land as a diverse and integrated whole.

This is the third of the four passages that were newly written for the final essay in 1947. No original draft of it has been found. There is clear evidence, however, that it is a reworking of the conclusion to "A Biotic View of Land," although the parallels between the original and the revision are not as obvious as in The Land Pyramid.

The first paragraph of this section is obviously an addition. The terms "land ethic" and "ecological conscience" are used in the first sentence. The second paragraph begins with the statement, "Conservationists are notorious for their dissensions"; the outline Leopold follows in illustrating these "dissensions"—in forestry, wildlife, and agriculture—is the same as in "A Biotic View." The passage on agriculture, in particular, closely parallels that of the 1939 essay and contains several of the same phrases. The passages on wildlife both make mention of exotics, rarities, and wildflowers. The passages on forestry both bemoan utilitarian forestry's predilection for growing trees "like cabbages" (one of Leopold's favorite images). The section concludes with a few lines from one of Leopold's favorite poems, used previously in "The Conservation Ethic."[8]

In its revised form, this section shows a much more focused sense of the divisions within and among the branches of conservation. In "A Biotic View of Land" Leopold was primarily concerned with the ecological concept of land; the varying attitudes of conservationists toward land were of secondary importance at the time. For years, he had wrestled with the fact that conservation was divided "between those who see utility and beauty in the biota as a whole, and those who see utility and beauty only

in pheasants or trout." In "The Land Ethic," he decided to draw explicitly the line between them.[9]

The Outlook is the last section of "The Land Ethic." Leopold assesses here the prospects for cultivating an ethical relationship with land, suggests what might be done to promote that relationship, and concludes with a plea for a deeper understanding of land.

This section is the fourth newly written part of the essay. Again, no original drafts have turned up, but we may assume that Leopold would write the conclusion only after assembling the essay. The identifying term "land ethic" is mentioned five times in this section. Leopold reiterates his themes: the need for ecological awareness; the limits of education in providing that awareness; the limits of economics in acting upon it; the land ethic as the next step in an evolutionary sequence; the need for more basic understanding of ecological processes; the role of the ecological conscience. All have been mentioned at previous points in the essay, and all return in this summary.

Only two passages come from previous writings. The final image—". . . remodeling the Alhambra with a steam shovel"—is borrowed from "The Conservation Ethic" and expanded in this concluding paragraph.[10]

The other passage is more critical. *A Sand County Almanac* is the climax, in many ways, of Aldo Leopold's career; "The Land Ethic" is the climax of *A Sand County Almanac;* this paragraph is the climax of "The Land Ethic":

> The "key-log" which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. (224–25)

No other passage from "The Land Ethic" has been so often quoted or so carefully scrutinized. It is the focus of the entire essay. It originally appeared at the conclusion of "The Ecological Conscience" in a slightly different form:

> The practice of conservation must spring from a conviction of what is ethically and esthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people.[11]

This, in turn, was based on a slightly different original draft in which the phrases "and esthetically" and "and beauty" were absent. Leopold later penciled these phrases in. While he is definitely erecting ethical standards in this statement, according to the criteria of integrity and stability, it seems he was more concerned with touching a broad base of human perceptions of the environment than with developing a hard-and-fast set of timeless standards. Leopold apparently saw the need to address the aesthetically minded portion of his audience. That his own mind was focused on the fusion of ethical use and beauty during this period is also indicated in the opening line of the "Foreword [to Great Possessions]" of July 31, 1947: "These essays," he wrote, "deal with the ethics and esthetics of land."[12] One suspects that he would have welcomed the subsequent quotation and criticism of this significant passage.

The simplicity of "The Land Ethic" masks the fact that it was actually the final product of a long, careful, and intensely personal process of observation, action, and reflection. Others tried to articulate a comparable philosophy of conservation during Leopold's lifetime, and many have tried since, but "The Land Ethic" remains a notable success. Because of its firm basis in the observed world, it is more accessible than most formal philosophy. Because of its personal tone, it exhibits more understanding than most attempts to derive a philosophy from ecology. Because of its intellectual breadth, it is more comprehensive than most conservation literature. In the time that has passed since the essay first appeared, philosophers, natural scientists, and the lay public have begun to discuss the issues that Leopold saw so clearly in 1947. He remains one of the few who can talk to all with authority.

Notes

1. For further discussion of the structure of *A Sand County Almanac,* see Peter A. Fritzell, "The Conflicts of an Ecological Conscience," and Dennis Ribbens, "The Making of *A Sand County Almanac,*" both in this volume.

2. Aldo Leopold, "The Conservation Ethic," *Journal of Forestry* 31 (October 1933): 639–40.

3. Susan Flader, *Thinking Like a Mountain: Aldo Leopold and the Evolution of an Ecological Attitude toward Deer, Wolves, and Forests* (Columbia: University of Missouri Press, 1974), 30–31.

4. This is found in the Leopold Papers of the University of Wisconsin–Madison Archives, LP 6B16, under the file, "Literary and Philosophical, 1940–1948." It is included in the appendix of this volume.

5. See J. Baird Callicott, "The Conceptual Foundations of the Land Ethic," in this volume. He suggests that these changes were, if anything, ill advised.

6. For a discussion of this problem see J. Baird Callicott, "Hume's Is/Ought Dichotomy and the Relation of Ecology to Leopold's Land Ethic," *Environmental Ethics* 4 (1982): 163–74.

7. Aldo Leopold, "The Ecological Conscience," *Bulletin of the Garden Club of America* (September 1947): 45.

8. This quote, which Leopold used several times in his speeches and articles, is from Edward Arlington Robinson's 1927 long poem *Tristram* (New York: The Macmillan Company, 1927), 83.

9. Aldo Leopold, "A Biotic View of Land," *Journal of Forestry* 37 (1939): 729.

10. Aldo Leopold, "The Conservation Ethic," 637.

11. Aldo Leopold, "The Ecological Conscience," 52.

12. Aldo Leopold, "Foreword [to *Great Possessions*]," in this volume.