
Believing that the human drama could not be understood apart from the physical setting, Leopold promoted the union of human history and natural history.

Aldo Leopold and the Biotic View of History

By Curt Meine

Aldo Leopold's effectiveness in his own time, and the endurance of his legacy into our own, can be attributed to the same causes: the unity of his thought, the grace of his writing, and an uncommon ability to translate ideas into action. This centennial celebration of his birth gives us the opportunity to consider the many fields in which he made contributions both revolutionary and lasting. In forestry, soil conservation, wildlife ecology and management, conservation administration, education, wilderness preservation, restoration ecology, environmental literature and philosophy, Leopold defined new aims and new methods, to the extent that one historian could, without undue exaggeration, label his career "perhaps the most distinguished . . . in twentieth-century conservation."

A common thread bound together Leopold's diverse activities. Permeating his work—so completely that it is often overlooked—was a view of history that is only now coming into broader circulation, a view that promises to yield insights far into the future. As we celebrate the many concrete accomplishments of Leopold, we might, too, consider this deep, clear wellspring of his efforts.

Beginning in the autumn of 1931 and extending into the following spring, Leopold conducted for the state of Iowa an extensive survey of wildlife conditions as part of an ambitious, twenty-five year conservation plan. The scope of Iowa's plan was unprecedented, and particularly noteworthy in view of the tough economic

conditions of the time. Leopold's contribution to the plan was in itself remarkable: never before had he tried to apply in such detail over such a great geographical area his newly promulgated principles of game management. He opened his final report on the survey with these words:

In studying the behavior of human populations—which we call history—we were once taught to memorize the names of kings and the dates of battles. He who could recite the longest list of such facts was accredited a scholar, who might one day be entrusted with some post in the prediction or control of population behavior—which we call sociology and politics.

It is now apparent that such 'knowledge' gave no clue to the underlying forces which caused races to rise and empires to perish; that we were studying merely the froth on the surface of a swirling tide, the cause and direction of which remained unknown. The real task of the historian is to explain the tide; of the statesman to control it for beneficial ends.

It was a lesson learned the hard way in the cold Depression years of the early 1930s. Yet, even Leopold was as yet unable to comprehend fully the depth and power of those "swirling tides." His point in thus opening the Iowa report was to illustrate to his readers that animal populations were similarly subject to underlying forces that determined their status in the "economy of nature" and that those forces could be influenced so as to bring back the decimated game

ranges of Iowa. In the years shortly to follow, however, Leopold would come to realize that the forces flowing beneath human history and natural history were in fact part of the same great current of time's change.

This realization would revolutionize his thinking. Human history, in his mind, could no longer be considered in isolation, but had to be placed first and foremost in its natural context: the climate, soils, waters, plants, and animals that together formed what he once termed "the very fabric of our prosperity." A year after the Iowa survey in his landmark address, "The Conservation Ethic" Leopold summarized the point:

A harmonious relation to land is more intricate, and of more consequence to civilization, than the historians of its progress seem to realize. Civilization is not, as they often assume, the enslavement of a stable and constant earth. It is a state of mutual and interdependent cooperation between human animals, other animals, plants and soils, which may be disrupted at any moment by the failure of any of them. . . . In short, the reaction of land to occupancy determines the nature and duration of civilization.

Historians, when they considered natural objects and natural systems at all, generally did so only peripherally. Now, as the science of ecology emerged, and the impact of mankind's technological prowess became clear, the study of history in its broadest context demanded that account be given of the dynamic interplay of man and land. The human drama could no longer be fully understood, or fully appreciated, apart from its physical setting.

Leopold had no shortage of examples with which to demonstrate his point. In fact, to as astute an observer of land as Leopold, every place was more than just a place; it was the latest expression in a very old, yet ongoing story. In one of his favorite metaphors, Leopold described land as a history book, the components of which constituted only the most recent page. To read it, one need only become literate in the ways of its plants and animals. In "The Conservation Ethic" he speculated on the process by which aboriginal Kentucky, "when subjected to the particular mixture of forces represented by the cow, plow, fire, and axe of the pioneer, became bluegrass." His own experience as a forester in the American Southwest had sensitized him to the delicate equilibrium inherent in that dry land; yet, "few people know anything about it. It is not discussed at polite tea-tables of go-getting luncheon clubs, but only in the arid halls of science." As a teacher, Leopold challenged his students to unravel for themselves the mysteries in their backyards:

We are driving down a country road in northern Missouri. Here is a farmstead. Look at the trees in the yard and the soil in the field and tell us whether the original settler carved his farm out of prairie or woods. Did he eat prairie chicken or wild turkey for his Thanksgiving? What plants grew here originally

which do not grow here now? Why did they disappear? What did the prairie plants have to do with creating the corn-yielding capacity of this soil? Why does this soil erode now but not then?

In this manner, history became not the record of a buried past, but the prelude to the living world of the day, necessary to any reasonable discussion of current issues, vital to the true progress of understanding. Leopold's contribution came in his extension of that discussion to include the nonhuman components of the system. Just as his land ethic appealed for a broadened definition of "community" that would admit those components, so did his historical perspective call for a more inclusive, ecological view of the community through time. The theory of evolution, of course, described such a change over geological time. Standard human history recorded, in passing, the subjugation of the community over historical time. Now Leopold was seeking out an approach that might harmonize the two. Conservation needed such an approach to strengthen its foundations. History needed such an approach to remain relevant.

A biotic view of history was necessarily interdisciplinary in its approach, integrating the wisdom of fields ranging from anthropology to zoology. For this reason, this kind of history could not be fully developed until the separate disciplines had themselves attained a certain degree of maturity. In retrospect, we can see that Leopold was in many respects the right man at the right time to advance this new perspective. Although his formal training was in forestry, not history, he had the restless curiosity that no competent historian can do without. His intuitive grasp of ecological analysis gave him a step-up on a science which was only then putting its own pieces together. His progressive tendencies, stubborn individualism, and capacity for self-criticism kept him free of the constraints of ideology. The instability of the Depression years both confirmed and further stimulated his dedication to the task of reconciling social change with environmental change. By the late 1930s, he deemed the revelations of ecology to be so important that, increasingly, he turned his considerable communications skills over to the task of explaining ecology to the layman and to society's leaders. This would result, he hoped, in a wiser citizenry, as well as "better advice from economists and philosophers." Unless such a view of land and its history took root, he felt, all our attempts to understand historical processes would be incomplete, and all our efforts to correct land abuse ineffective.

Leopold's emphasis on the ecological aspects of history was particularly important in his defense of wilderness areas. Although Leopold had been known since the early 1920s as a national leader in the struggle to preserve wilderness, it was not until the 1930s that he began to argue for wilderness on ecological grounds. The lesson of the Dust Bowl, and of other contemporary environmental disasters, was that wilderness was not only worth keeping for its scenic and recre-

ational values, but for its scientific value. During these years, Leopold keyed in on the concept of "land health": the capacity of natural systems and their component parts to regulate and regenerate themselves. Too often, the process of settlement disrupted this capacity. Wilderness, conversely, provided a "base datum of normality" for those who sought to understand the human impact on plant and animal communities. Historian William Cronon, in his ground-breaking study of ecological change in New England *Changes in the Land* (1983), writes, "When one asks how much an ecosystem has been changed by human influence, the inevitable next question must be: 'changed in relation to what?'" There are, as Cronon points out, no simple answers to that question. But a full, living area of wild land, where natural change may occur with minimal distortion, is a good place to begin the search.

By the end of his life, Leopold placed high value on this special quality of wilderness; it was "the raw material out of which man has hammered the artifact called civilization." For those whose view of history placed little value on the actions of the nonhuman players, wilderness was irrelevant. For those who began to see cultural change "embedded" (to use Cronon's word) within ecological change, wilderness was necessary. The last word Leopold wrote on wilderness made the point:

Ability to see the cultural value of wilderness boils down, in the last analysis, to a question of intellectual humility. The shallow-minded modern who has lost his rootage in the land assumes that he has already discovered what is important; it is such who prate of empires, political or economic, that will last a thousand years. It is only the scholar who appreciates that all history consists of successive excursions from a single starting-point, to which man returns again and again to organize yet another search for a durable scale of values. It is only the scholar who understands why the raw wilderness gives definition and meaning to the human enterprise.

Leopold was not the first, nor the only one, to appreciate the value of a biotic view of history. Historians of ancient cultures, for example, recognized the important role of agricultural systems in understanding the rise and fall of those cultures. But modern times made the need for such analysis and synthesis imperative. George Perkins Marsh, in his 1864 classic *Man and Nature*, anticipated this need, providing in the process impetus for the conservation revolution that was to follow. Such contemporaries of Leopold as geographer Carl O. Sauer and historian James Malin, among others, also bridged the disciplinary gaps. Now in the aftermath of the environmental movement of the 1960s and 1970s, a core of solid ecological histories has begun to form and promises to expand as the need and interest increases.

There are limits to this kind of inquiry. It cannot and will not replace the detailed investigations of hu-

man lives and institutions that more conventional history offers. In fact, it depends upon these for its intellectual rigor. And, no doubt, it will generate its share of bad history as well as good. At its best, however, it may allow us a new range of insights and a view of our *becoming* that is less hindered by our species' pride and more thoughtful about the future of humanity's impact on the natural environment.

One evening, early in November 1935, Aldo Leopold sat alone in a hotel room in Berlin, Germany, and jotted down some notes to himself. He was nearing the end of a three-month investigation of the forests and wildlife of Germany and Czechoslovakia, and on the back of a sheet of hotel stationery he began to write an essay bearing the tentative title "Wilderness." It was a topic much on his mind during his travels.

He never completed the essay. He managed to write three short paragraphs that evening, but never even got around to mentioning the title subject. Yet, his experiences in Germany had stimulated him to consider the broad questions of conservation's intent and the potential impact of the still-new science of ecology. His final paragraph read:

One of the anomalies of modern ecology is that it is the creation of two groups each of which seems barely aware of the existence of the other. The one studies the human community as if it were a separate entity, and calls its findings sociology, economics, and history. The other studies the plant and animal community, [and] comfortably relegates the hodge-podge of politics to "the liberal arts." The inevitable fusion of these two lines of thought will, perhaps, constitute the outstanding advance of the present century.

A bold prediction, indeed! Especially for Leopold, whose meticulous mind yielded such sweeping statements only cautiously. In a century witness to unimagined technical and intellectual achievements, such a "fusion" of thought as Leopold predicted seems hopelessly quaint.

There is a power in his statement, however, and it lies in Leopold's all-but-unconscious grasp of the connection between human freedom and the human environment. Our freedom rests on an enlightened understanding of underlying forces. Those forces, we now know, are both social and natural in their origins, and unless reconciled can only work against one another. "The question is" Leopold wrote, "does the educated citizen know he is only a cog in an ecological mechanism? That if he will work with that mechanism his mental wealth and his material wealth can expand indefinitely? But that if he refuses to work with it, it will ultimately grind him to dust? If education does not teach us these things, then what is education for?"

These, for Leopold, were the lessons history taught and the questions it begged. ■