

Leopold's Land Ethic, Ecosystem Health, and the Challenge of Affluenza

Y.S. Lo

While the work of Aldo Leopold—particularly his land ethics—has inspired some philosophers and activists and called down rebukes and critique from others, the widest international impact of his work is found in fields beyond philosophy and environmental activism. Leopold inaugurated the idea of ecosystem health in a seminal remark in 1941 when he commented that “although the art of land doctoring is being practiced with vigor, the science of land health is a job for the future.” His remarks on the science of land health, along with his practical admonitions to develop sustainable and naturally inspired farming systems, have inspired many people, especially biologists, conservationists, and agriculturalists, to think in new ways about the challenges of land management and nature protection. By the 1970s a new discipline, ecotoxicology, had emerged, which seemed to fulfil some of Leopold's requirements for being a science of “land health.” Two central insights of ecotoxicology are (1) that components of ecological systems can be damaged through the cycling and accumulation of toxic material within the systems and (2) that monitoring certain populations belonging to a system can provide early warning of risks to other populations within the same system. If insight 2 is true, then the measurement of certain parameters for the key populations might be just as useful, objective, and reliable as a guide to the health of systems as the measurement of heart rate, blood pressure, and aspects of body chemistry is for the health of an individual organism.

Despite his continuing influence, it is hard nowadays to defend Leopold's views on the relationship of naturalness, biodiversity, and land health. When he claimed that the science of land health was a job for the future, he clearly regarded health as associated with the *integrity, stability, and beauty* of the land. His land ethic states that “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” (Leopold 1949, pp. 224-225). It would be convenient if the pursuit of land health corresponded with maintaining stable and naturally diverse environments. But as Leopold's major contemporary exponent, J. Baird Callicott, has admitted, the concepts of biodiversity and ecosystem health come apart. Quoting research by Allen and Hoekstra (1992), Callicott has argued out that the loss of the American chestnut from forests in the southeastern United States did not compromise the health of these forest systems. However, that loss occurred in a context of changing biodiversity; hence, biodiver-

sity can change while health remains unaffected (Callicott 1995, p. 357). In fact, the general association of health with diversity is challenged by well-known cases: For example, a plantation woodland may produce healthier timber than an old-growth forest. In the latter, it is the decaying of trees and the spread of fungi and disease organisms that open up places for explosions of life and diversity at many levels from microorganisms up to invading plant species.

As Angermeir and Karr (1994, p. 692) have pointed out, *biological integrity* can be defined as “the capacity to support and maintain a balanced, integrated, adaptive community having a species composition, diversity, and functional organization comparable to that of the natural habitat in the region.” Such a sense of the notion of integrity may be not far from what Leopold had in mind. Many healthy and relatively natural communities do have just such integrity. On the other hand, it is also possible for there to be mixed natural and agricultural systems that are very healthy by any standard measure but in which biodiversity is not comparable at all to that which originally characterized the region. As Leopold pointed out, “few acres in North America have escaped impoverishment through human use” (Leopold 1939). Recent trends in restoration, conservation, and organic farming have attempted to reduce the worst effects of large monocultures and intensive farming systems. Yet reduction in biodiversity—in comparison to the pre-agricultural situation—is a widespread, if not universal, feature of agro-ecological systems, which largely aim at sustainability and are regarded as successful when they produce increases in biodiversity above the norms that intensive farming systems permit (MacDonald and Service 2007).

Health of a system, then, is not necessarily correlated with some earlier measure of species composition and diversity, and so not a necessary accompaniment of integrity in Leopold’s sense. Now, this sets a challenge, not only for Leopold, but also for contemporary sciences of the land, those aimed at maintaining system-level health while promoting diversity and some level of “naturalness.” Just as the notions of health and diversity come apart, so also must the concepts of naturalness and health. Leopold’s land ethic was premised on respect for and cherishing of things “natural, wild, and free.” But many animals in a state of nature enjoy relatively poor health, and so also do plants. If we value biodiversity, and if we value the natural interplay between species, the duel for survival between larger organisms and the microorganisms which infect them, then we may have to tolerate levels of disease within populations that are far higher than need be.

Putting the point another way, with some management, various plant and animal diseases could be reduced and hence the aggregate health of populations could be improved. In facing the issue of ethics and the management of national parks one theorist, Holmes Rolston, has argued that pain and suffering in the wild ought not be relieved if doing so would interrupt ecosystemic and evolutionary processes (see Rolston 1992). Evolution is driven, as Darwin originally pointed out, by the “struggle for existence,” and Rolston’s recommendations on park management are intended to let the struggle continue. Yet consider the parallel case for human communities. Thanks to the application of medical science and technology, many

human populations have managed to overcome many of the natural limitations on human flourishing, and in so doing have changed the nature of human life and expectations. If we are lucky, born with robust constitutions and escape various environmental challenges, then we can enjoy natural good health. If we are less lucky, we may still—thanks to medical interventions—enjoy good health, but at the loss of “naturalness” understood as freedom from human technological manipulation and intervention.

The contemporary inspiration of Leopold’s views on the land ethic, conservation, and sustainable agriculture is that we should look with a certain skepticism at human attempts to manage nature and replace natural systems of evolution and control with human substitutes. Think of the “land” in Leopold’s sense as a loosely and feebly organized system, a kind of superorganism. In this sense, it is not an aggregate of individual plants, animals, waters, and soils, but is a unitary thing whose health consists in maintenance of its own natural capacities for self-regulation and continuing identity. To use a more recent notion, the land is a *resilient* system, capable of repairing damage by means of its own natural processes, if only these can be left to operate. The land, or ecosystem, is thus similar to the human or animal body itself through being a self-maintaining and self-regulating system. Like the land, the body is able to maintain itself in the face of environmental challenge and various perturbations by returning close to some earlier state after such disturbance. Health, both for the individual and for the system, involves this capacity for self-repair and self-renewal not merely the absence of disease and illness.

When it comes to public health and to agriculture, the short-term view often takes precedence. What is good for the population, it is often thought, is the improvement of individual health and thus the elimination of widespread diseases and deficiencies within a given population. Leopold’s work, however, encourages us to take the longer term perspective, to “think like a mountain” as he put it. Leopold was far too practical to recommend that we follow nature in everything, or that nature always knows best. He recognized the importance of land management and the significance of conservative and sustainable farming practices. Yet throughout his work there are always cautionary reminders that our own wisdom is limited. As “plain members and citizens” of the larger biotic community, our conception of what is good for our communities and what is good for the land may be a blinkered and narrow one. The concepts of health, diversity, integrity, and naturalness that are central to Leopold’s work are still ones that intrigue, confuse, and puzzle writers today—and his writings are a constant source of fresh thoughts and new ideas in the face of just such bewilderment. Leopold’s land ethic, then, and his associated views on the science of land health, are not solutions to a determinate set of problems so much as a continuing source of provocation and challenge to professionals working in applied ecology and agriculture.

While his work on the science of land health has been influential in establishing the practical applications of ecological sciences, Leopold’s impact on environmental ethics and philosophy has been of wide significance in the development of contemporary environmental thought. During much of the 20th century, theo-

gians, naturalists, ecologists, and foresters living in the United States had regularly made value pronouncements in connection with life, wilderness, or “the land” in general. The Scot John Muir (founder early in the century of the Sierra Club and often called the “father of American conservation”) advocated an esthetic concern and quasi-religious reverence for nature, its glory and majesty, while deploring the utilitarian and economic approach to farming and the land. When he wrote in his *Sand County Almanac*, “that land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics,” Leopold was following squarely in the footsteps of Muir. By contrast, his practical emphasis on conservation and the science of land health resonates with the work of the pioneering conservationist Gifford Pinchot. It was left to Leopold’s later followers, most prominently the philosopher J. Baird Callicott to try to fuse Pinchot’s practical and “wise use” approach to environmental management into productive synthesis with the legacy of Muir’s reverentialism. In common with both Muir and Pinchot, though, Leopold was clear that any ethic of the environment should start from a rejection of purely economic thinking:

[Q]uit thinking about decent land use as solely an economic problem. Examine each question in terms of what is ethically and aesthetically 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. (Leopold 1949, pp. 224-225)

Philosophical commentators on Leopold found two elements of interest in this: first, a rejection of ethical individualism in favor of a form of holism, one in which the needs and interests of individuals must sometimes be sacrificed in order to protect larger biological wholes—like populations or systems; second, a doctrine of the intrinsic value of natural things. As noted by many writers, one implication of the land ethic is that an individual member of the biotic community ought to be sacrificed whenever necessary for the protection of the good of the whole community. For instance, Callicott once argued that if culling a white-tailed deer is necessary for the protection of the holistic biotic good, then it is a land-ethical requirement to do so. Once applied to the human domain, the thought that the individual should be sacrificed for the greater good starts to resonate with unacceptable totalitarian ideas, leading Tom Regan (1983) to dismiss the land ethic’s disregard of the rights of the individual as “environmental fascism.” More sympathetic readers of Leopold, however, have argued that a workable version of the land ethics maintains simply that both the biotic community and its individual members all have intrinsic value (Callicott 1989, 1999).

The idea that nature, its systems, populations, and communities have value in their own right is now so widely accepted that it is easy to forget just how radical a thought this was merely 20 or 30 years ago. And while the notion that economic value is fundamental or has priority over other values may seem to be widely rejected nowadays, there is still a widespread form of sickness and malaise that threatens

the best efforts of environmentalists, conservationists, and others concerned about the increasing appropriation of the planet's biosynthetic product by human beings and the likelihood of catastrophic climate change inducted by industrial societies. The term "affluenza" (James 2007) usefully captures the involuntary nature of this new malaise, conceived as a kind of infection generated by our exposure to the toxic structures of contemporary capitalism and consumerism.

Affluenza is a product of systems that are rich in available resources, hence able to thrive and multiply on the addictions cultivated in consumers. At the same time, these addictions are focused by the market on a range of pleasures and satisfactions that are—in comparison to the capacities of normal human beings—relatively narrow. The result is an atrophying of higher human sensitivities, a loss of the richness of lived experience, and its replacement by repetitive and short-lived satisfactions based on material goods. Alongside this are symptoms of addiction—typically a failure to recognize the scale of the problems we face, inflated optimism about our ability to get out of deeper and deeper problems, borrowing from the future, and an unrealistic and exaggerated sense of future profits and satisfactions. The problem of affluenza is not one that can be solved by reason or rational argument. Instead, it challenges policy makers to find ways of dealing with irrational and self-destructive addictions and to find ways of motivating new behaviors.

It is generally true that the longer it takes for people to master something, the more difficult it is for them to unlearn it. Likewise, the more time and effort that one has to invest in acquiring the taste for a certain kind of pleasure, the longer it will take for one to get bored with the experience. That explains why people become dissatisfied with consumer goods so quickly. Consumer goods, as such, are always updateable, upgradeable, upscalable. It is in the fate of any consumer product to become unsatisfying and therefore need replacement. They are not meant to last or provide long-lasting satisfaction. Ideal consumer products are those that people initially lust after, and then quickly become dissatisfied or bored with, and therefore soon seek a better replacement. That is how they keep the system of consumption and production running. That is why they are not intrinsically satisfying. Like junk food, consumer goods are immediately attractive, easy to enjoy, dangerously addictive, but quickly become dull, and harmful when consumed excessively. One way to counter affluenza, therefore, would be to cultivate in people the abilities to derive long-lasting pleasure and satisfaction from things and experiences that are simple and inexpensive, but the acquisition of the taste for which requires serious time and effort.

Leopold's seminal work may itself contain similar seeds of a response to the challenges of affluenza and consumer addiction. In a short piece on the sky dance of woodcock, he comments on the endless fascination and marvelling that we can enjoy when we are engrossed in and appreciative of our natural surroundings. "The drama of the sky dance," he writes, "is enacted nightly on hundreds of farms, the owners of which sigh for entertainment but harbor the illusion that it is to be sought in theaters. They live on the land, but not by the land" (Leopold 1949, p. 134). Here Leopold is contrasting the market-place pleasures of the entertainment industry (he

is writing before television) with the endless joy that emerges from attentiveness to our surroundings and to the other beings with whom we share them. There may be resources here on which philosophers, analysts, and policy makers can draw when exploring ways in which to meet the challenges of affluenza, which undermines the capacity of the planet to maintain critical natural capital and the very systems on which human life and consumption themselves depend.

Leopold's genius in this case is not that he states a new idea, but that he gives concrete expression to ideas that had been mooted by John Muir early in the century and even earlier by writers such as John Stuart Mill. In his classic essay on *Utilitarianism* (1861), Mill wrote that "men lose their high aspirations as they lose their intellectual tastes, because they have not time or opportunity for indulging them." With striking insight into the consumer society still to emerge, Mill continued by commenting that "they addict themselves to inferior pleasures, not because they deliberately prefer them, but because they are either the only ones to which they have access, or the only ones which they are any longer capable of enjoying." Leopold's sketch of the sky dance of the woodcock and his comments on the puzzles, joy, and fascination it evokes remind the reader that humans still have the capacity to enjoy intrinsically worthwhile and valuable experiences provided they give themselves time to cultivate their own humanity within the broader environmental home where all life is set.

References

- Allen, T.F.H., and T.W. Hoekstra. 1992. *Toward a Unified Ecology*. New York, NY: Columbia University Press.
- Angermeir, P.L., and J.R. Karr. 1994. Biological integrity versus biological diversity as policy directives: Protecting biotic resources. *Bioscience* 44:690-697.
- Callicott, J.B. 1989. In *Defense of the Land Ethic: Essays in Environmental Philosophy*. Albany, NY: State University of New York Press.
- Callicott, J.B. 1995. The value of ecosystem health. *Environmental Values* 4:345-361.
- Callicott, J.B. 1999. *Beyond the Land Ethic: More Essays in Environmental Philosophy*. Albany, NY: State University of New York Press.
- James, Oliver. 2007. *Affluenza*. London: Vermilion.
- Leopold, Aldo. 1941. Wilderness as a land laboratory. *Living Wilderness* 6(1941).
- Leopold, Aldo. 1949. *A Sand County Almanac*. Oxford: Oxford University Press.
- Leopold, Aldo. 1939. The farmer as a conservationist. *American Forests* 45:294-99,316,323.
- Macdonald, David W., and Katrina Service. 2007. *Key Topics in Conservation Biology*. Oxford: Blackwell.
- Markert, Bernd, and Jörg Oehlman. 1998. Ecotoxicology. In *Modern Trends in Ecology and Environment*, ed. R.S. Ambasht, 47-52. Leiden, the Netherlands: Backhuys Publishers.
- Mill, John Stuart. 1861. *Utilitarianism*. In *Collected Works of John Stuart Mill*, Vol. 10, ed. J.M. Robson. Toronto: University of Toronto Press.
- Regan, T. 1983. *The Case for Animal Rights*. London: Routledge & Kegan Paul.
- Rolston, Holmes. 1992. Ethical responsibilities toward wildlife. *Journal of the American Veterinary Medical Association* 200:618-622.

ABOUT THE AUTHOR

Y.S. Lo, Lecturer, Department of Philosophy, La Trobe University, Victoria, Australia.