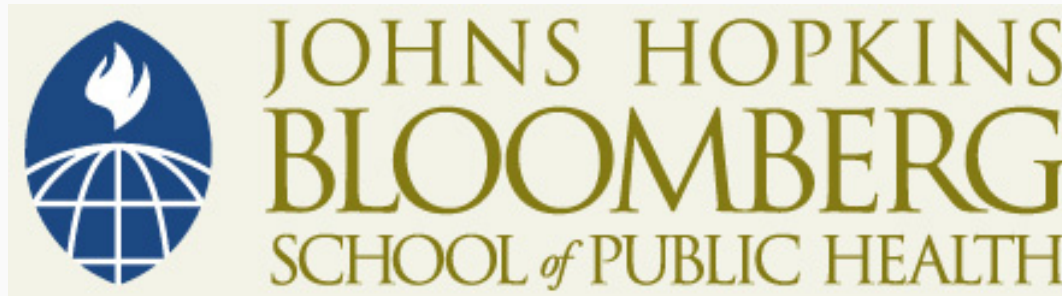


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Section C

Limits to Therapeutic Intervention

Therapeutic Intervention vs. Natural Systems Principles

- W. J. Lewis et al. (1997). A total system approach to sustainable pest management. *Proceedings of the National Academy of Sciences*, 94, 12243–12248.

“The basic principle for managing undesired variables in agricultural systems is similar to that for other systems, including the human body and social systems. On the surface, it would seem that an optimal corrective action for an undesired entity is to apply a direct counter force against it. However, there is a long history of experiences in medicine and social science where such interventionist actions never produce sustainable desired effects. Rather, the attempted solution becomes the problem....”

Therapeutic Intervention vs. Natural Systems Principles

“... Application of external corrective actions into a system can be effective only for short-term relief. Long-term sustainable solutions must be achieved through restructuring the system. . . . The foundation for pest management in agricultural systems should be an understanding and shoring up of the full composite of inherent plant defenses, plant mixtures, soil, natural enemies, and other components of the system...”

Therapeutic Intervention vs. Natural Systems Principles

“... The use of pesticides and other ‘treat-the-symptoms’ approaches are unsustainable and should be the last rather than the first line of defense. A pest management strategy should always start with the underlying weaknesses in ecosystems and/or agronomic practice(s) that have allowed organisms to reach pest status.”

“Already there are well-meaning discussions about improving human DNA. I find this somewhat hubristic myself. [The human genome] has been 3.5 billion years in the making. We’ve been able to read it for the last, oh, I don’t know, year or so. And we suddenly think we could write the story better? It’s very amusing....”

“... There is the prospect that by changing things we might put off aging, prevent cancer, improve memory. I find it a very difficult question. For my own part, I would put an absolute ban in place on human germline gene therapy. Not because I think for sure we should never cross that threshold. But because I think that is such a fateful threshold to cross that I'd like society to have to rebut that presumption someday, to have to repeal a ban when it thought it was time to ever try something like that.”

— *Dr. Eric Lander, leader of the team that decoded the largest portion of the human genome*

Some Reflections from Aldo Leopold

“It was inevitable and no doubt desirable that the tremendous momentum of industrialization should have spread to farm life. It is clear to me, however, that it has overshot the mark . . . it is generating new insecurities, economic and ecological, in place of those it was meant to abolish. In its extreme form, it is humanly desolate and economically unstable. These extremes will some day die of their own too-much, not because they are bad for wildlife, but because they are bad for the farmer.”

— *Aldo Leopold, 1945*
The Outlook for Farm Wildlife

Aldo Leopold Proposed Such an Ethic 50 Years Ago

“A land ethic, then, reflects the existence of an eco-logical conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity.”

— *Aldo Leopold, 1949*
A Sand County Almanac

Enlarging the “Boundary” of Our Care

“The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively: the land.”

— *Aldo Leopold, 1949*
A Sand County Almanac

“... national health and food rules [are] treated not as the expression of a people concerned about what sorts of things to put in its collective stomach but rather as mere protectionism—unless backed up by the hardest of hard scientific evidence . . . This determinist approach toward agriculture . . . became the flash point for a far broader concern among citizens . . . So Globalism, put forward as a metaphor for choice [ended up] limiting personal choice.”

— *John Ralston Saul, March 2004
Harpers*

What's Missing?

“The missing *concept* is the ecological one of *landscapes-as-ecosystems*, literally “home systems,” within which organisms, including people, exist. We have been taught that we are separate living *things*, but not so. The realities of the world are ecological systems of which organisms are components and without which no creatures of any kind could exist.”

“The missing *attitude* is sympathy with and care for the land and water ecosystems that support life. It will come when we make the concept of a planetary home part of our daily thought, part of our hearts and imaginations . . .”

— *Stan Rowe, Home Place: Essays in Ecology*