

This Week's Citation Classic

Hardin G. The tragedy of the commons. *Science* 162:1243-7, 1968.
[University of California, Santa Barbara]

When resources are scarce, free access to common property —meadows, ocean fisheries, or pollution-sinks like the atmosphere—is ruinous. Those who restrain their demands because of long-term bad effects lose out in competition with short-term maximizers. This perverse logic makes ruin inevitable. [The *Science Citation Index*® (*SCI*®) and the *Social Sciences Citation Index*™ (*SSCI*™) indicate that this paper has been cited over 270 times since 1961.]

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"As the retiring president of a scientific association I was required to give a public address: this paper was the result. By this time in my career writing was pretty easy for me; but I was not prepared for the agony of writing this essay. Over a period of two months one draft followed another, and they were strikingly different. I wrote a total of seven drafts, as I recall. After the address was delivered I sent it to *Science*. Three months passed, and then the editor made two comments: we accept the paper, but it is too long. Out came the scissors; I cut out the first half, wrote a few introductory sentences for the remainder, and the job was done.

"Why was the writing so difficult? Principally because I was reaching

conclusions that repelled me, and I tried desperately to avoid them. Freedom in an unmanaged commons leads inevitably to ruin. In a crowded world our only real freedom lies in joining with others in choosing and implementing the forms of coercion — mutual coercion, mutually agreed upon — which describes the result of any law in a democracy. Voluntarism will not save the whales or keep the skies unpolluted. Neither will it make possible population control by purely personal birth control in a welfare state: in this case, the compassionate rule of welfare, 'to each according to his need,' creates a commons, with the usual prognosis of ultimate ruin.

"I did not work out the full theory until the publication, in 1977, of my book *The Limits of Altruism*.¹ Glimpses of the theory are found as far back as Aristotle. A. N. Whitehead said, 'We give credit for an idea not to the first man to have it, but to the first one who takes it seriously.' On that basis I think I deserve credit; I did take the idea seriously, developing many of its ramifications. Not all at once, however Applications to foreign aid and immigration I delayed for six years, when my 'Living on a lifeboat' evoked considerable opposition.²

"As for methodology, I think my work points to the importance of abandoning the melioristic assumptions encased in Adam Smith's 'invisible hand' in favor of the pejorative ones of Gresham's Law. Pure technological optimism has had its day: a search for the pathologies of man-nature systems now pays off better — such is the thrust of my 1976 essay, 'Pejorism: the middle way.'³ Time will tell if I am right"

1. Hardin G. *The limits of altruism: an ecologist's view of survival*. Bloomington, IN: Indiana Univ. Press, 1977. 154 p.
2. Living on a lifeboat. *Bioscience* 24:561-8, 1974.
3. eiorism: the middle way. *N. Amer. Rev.* 261:9-14, 1976.