

Filters Against Folly

Renewed interest in a Hardin classic

Book Review by Carl Bajema

The American economist Kenneth Boulding has contended that it is “almost criminal to teach people things they do not really need to know if this prevents them from learning things they do need to know.” The shortcomings of the formal education provided by our schools, colleges, and universities have been discussed in numerous reports but little attention has been devoted to how educators can better help students learn how to become more critical thinkers. One important exception is the book *Filters Against Folly: How To Survive Despite Economists, Ecologists and the Merely Eloquent*. The political scientist Lynton Caldwell, who reviewed the manuscript of this book, concluded that it “offers an antidote to some of the more perverse and dangerous irrationalities of our time: wishful self-delusion, educated incapacity, and foolhardy optimism.”

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Filters Against Folly: How to Survive Despite Economists, Ecologists and the Merely Eloquent

by Garrett Hardin
New York: Viking Press
123 pages, \$15.95



Our increasingly complex and interdependent society requires the development of more effective problem solving strategies. Garret Hardin asks, “How are we laymen to survive in a world increasingly dominated by experts?” We need lay defenses to protect ourselves against the assumptions (conscious and unconscious), the biases, the prejudices and ignorance of experts so that

we can evaluate the claims of experts as we citizens try to identify the most appropriate course of action. Hardin contends that the greatest folly citizens can commit when confronted with expert testimony is to accept expert statements uncritically. The statement that “The authority of a scholar is measured by how long he/she can delay progress in his/her

field” applies equally to experts in engineering and government as well as in science and theology.

Experts, be they economists, ecologists or linguists, have been aptly described as individuals who know more and more about less and less. Since the world is too complex for our minds to remember every detail and to easily encompass the whole, experts employ filters to set aside certain dimensions of reality as trivial or as something to be dealt with by another expert. Since different filters alter the total picture of reality in different ways, we need to know the characteristics of the intellectual filters used by experts as well as by ourselves in solving problems. Professor Hardin identifies three

major filters against folly that we citizens can use against the blindness, short-sightedness, and sheer idiocy that so often comes disguised as eloquence or expertise.

The first filter is **literacy** – “the ability to understand what words really mean.” The second is **numeracy** – “the ability not only to quantify information, but also to interpret it intelligently.” Hardin calls the last filter **ecolacy** – the ability to take into account the effects of complex interactions of systems over time.

Hardin contends that most of the major controversies of our time can be better understood as the result of the participants relying too much on any single one of these three filters. Since no one filter by itself is adequate for understanding reality and predicting the consequences of our actions, Hardin devotes the rest of the book to a discussion of the strengths and weaknesses of each of the three filters.

Literacy – skill in the written and spoken language – enables us to draw on the wisdom (and foolishness) of human beings distant from us in space and time. In his discussion of the sins of the literate, Hardin contends that language has two functions beyond communication – “to promote thought and to prevent it.” He spends most of the chapter identifying ways in which we use language to prevent thought. While his discussion of the “verbal diarrhea” or the merely eloquent and the misuse of poetic license is fascinating, it is Hardin’s discussion of the use of such discussion-stoppers as “infinite,” “inexhaustible,” “non-negotiable,” “self-evident,” “must” and “imperative” to prevent the use of the other two intellectual filters against folly that is most revealing. Hardin also asks why we always talk about shortages rather than about “longages” of demand or of people. He concludes that it is in large part due to the fact that virtually no one profits from supplying less. Hardin’s penetrating analyses of how language has been used to distort our perception of the world echos the concerns of Ludwig Wittgenstein, who wrote, “Philosophy is a battle against the bewitchment of our intelligence by means of language.”

The World of Numbers

In a moment of frustration Mark Twain is reported to have shouted, “There are lies, damned lies and statistics!” In a world where people are very numerous and where many people use numbers in an effort to convince others to behave in certain ways, a responsible citizen has no choice but to become numerate as well as

literate. **Numeracy** involves the ability to measure and to interpret quantities, proportions and rates. Hardin points out that human beings have all too often learned how to use the resources of literacy to hide numbers and the need for numerate analysis. Hardin draws attention to the problems created by always thinking solely in terms of dichotomies (safe vs unsafe, pure vs impure) rather than in terms of relative risks and benefits, etc. The widespread apathy to quantitative analysis which is so important in science, technology, business, and government, while understandable as an emotional reaction to the remarks of the more arrogant of the practitioners of numeracy, bodes ill for a complex and fast moving society where quantities, ratios, rates and duration of time all matter. Hardin also discusses the limitations of numeracy – that the conclusions of an accurate mathematical analysis is only as good as its premises. Hardin concludes that “Given effective education – a rare commodity, of course – a numerate orientation is probably within the reach of most normal people.”

And Then There Is the Environment

It is when Hardin discusses the intellectual filter **ecolacy** that he is at his best because he has spent the last 40 years studying ecology, evolution and their bioethical dimensions. A more comprehensive development of ecolacy – the ability to ask and answer the question: *and then what?* so that the effects of the interactions of systems over time can be taken into account – is necessary if we are not to fall victim to the forces we unleash and are unwilling or unable to control.

Science has been defined as the knowledge of consequences by the philosopher Thomas Hobbes. Scientists have been extremely successful employing reductionistic methodology – breaking problems down into their components and studying the properties of these components and their interactions. This has led to the ascendancy of what has been called the engineering mentality – thinking that we can do just one thing. The way we think about cause-effects of our actions/inactions. Our world is not made up of simple systems where an event is produced by a single isolated cause and has a single isolated effect. When we expand the very short time frame most scientists, technicians, businessmen, and government planners employ in studying processes, it becomes obvious that effects

become causes of still further effects in the future – that causal chains of events rather than single effects are reality. It also becomes obvious that events are embedded in causal networks – that events are produced by multiple causes and have multiple effects, each of which triggers a causal chain of future events.

Some ecologists have tried to draw attention to the interrelatedness of our world by stating that *everything is related to everything else* (sometimes called Barry Commoner's first law of ecology). This statement has been criticized by many scholars because while it is valuable as a warning it is useless as a guide to action. While all things in the environment interact they interact in different ways. The ecologist Garrett Hardin restated this important ecological understanding in the following language so that it can serve as a guide to action: WE CAN NEVER DO MERELY ONE THING which is now known as Hardin's Law. The language that we have used to describe the effects of our actions demonstrates the reality that Hardin's Law draws our attention to. We talk about effects and side-effects, products and wastes.

Hardin contends that since we cannot do just one thing we must always ask and answer the question *and then what?* when we try to ascertain the benefits and costs of proposed courses of action on both the individual as well as social levels. The ecological systems way of thinking employs modern scientific theories and knowledge to study a world of interlocking processes characterized by many reciprocal cause-effect pathways. The ecological systems way of thinking has to become an integral part of the thinking of the well-educated person if we are to adequately control technology rather than fall victim to the forces we generate and are unable or unwilling to control. Ecological systems thinking provides well-educated persons with the opportunity to act more rationally, because they have learned a more comprehensive and more accurate way of estimating the probable costs and benefits of their actions.

After the explosion of atomic bombs over Hiroshima and Nagasaki, Albert Einstein is reported to have said: "The unleashed power of the atom has changed everything save our modes of thinking."

The recent construction and computer simulation of ecological scenarios of the medical, ecological and politico-economic consequences of nuclear war is one example of the success of ecology – asking and

attempting to answer the question *and then what?* The nuclear war casualty estimates made by military experts were shown to be gross underestimates when scientists used both the ecologic and numerate filters to examine the human casualties predicted by the military experts. The smoke and dust from nuclear weapons explosions and the resulting firestorms – effects which were thought to be so trivial by military experts that they were not carefully quantified and studied – have been mathematically modeled, and the resulting computer scenarios have produced what is now widely known as the Nuclear Winter Scenario, in which more people are expected to die of starvation generated by the long range climatic effects (the cold and dark) than by the immediate

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consequences of radiation sickness and burns.

Numerous problem-solving strategies separate ecologists from economists. One approach in economics that ecologists reject is the classifying of certain costs as "external" to the decision making process whose adverse effects can then be conveniently ignored. One element more than anything else divides economists and ecologists: the different conceptions the two groups give to time as an element binding human decisions. Hardin points out that "at high rates of interest the present value of the future effectively vanishes" and contends that "A culture of poverty is one in which the future is discounted – both implicitly and explicitly – at a very high rate." Professor Hardin contends that while the economic theory of discounting the future makes a certain amount of sense, the permanent features of an enduring civilization are built on actions that do not discount the future.

Hardin devotes considerable space to a discussion

of the commons – a tragic political/economic system for distributing the costs and benefits of human actions/inactions. He warns his readers against the tragic consequences of the Double C-Double P game, the wedding of commonized costs with privatized profits. Hardin contends that Marxists have concentrated too much “on the relatively trivial fact of ‘ownership,’ while ignoring the critical act of ‘distribution.’” Hardin contends time spent in getting our verbs correct – ascertaining whether the distribution of costs and benefits is privatized, commonized, or socialized is far more important than “splitting hairs over the meaning of nouns.”

Humans pursue scientific understanding for two reasons – understanding and control. Hardin contends that effective educational reform will go beyond a return to the basics – the “Three R’s of READING, WRITING and ARITHMETIC” – and provide learning experiences that enable students to develop the skills necessary to use the “Three Intellectual Filters of LITERACY, NUMERACY, and ECOLACY” against human folly.

The modern world-view has been based on an almost exclusively individualistic basis. Hardin contends we are headed for disaster unless we take account of the ecological consequences of our actions/inactions. What should an ecologically oriented education include? Ecological education in the social/biological sciences should include the study of such topics as the flows of energy, matter and information, exponential growth rates, the limits to growth (second law of thermodynamics, the carrying capacity of the environment, etc.) and adaptive genetic and cultural evolution by selection theories. Cybernetics, game theory, and the computer simulation

of ecological scenarios should be part of the curriculum as well as systems analyses that demonstrate how various political systems distribute the costs and benefits of using environmental resources and thus affect the wastage of resources, the production of pollutants, and the quality of life of all citizens.

The compartmentalized reductionistic approach to education should not be allowed to continue to dominate education. The continued production of narrow-minded, trained specialists in the humanities, social sciences and the natural sciences is inconsistent with the educational goal of helping students become well-educated persons. Educators who wish to help their students become well-educated must provide learning experiences that integrate rather than fractionate our knowledge of the world. Reading *Filters Against Folly* is a good way for educators as well as citizens to begin the necessary intellectual retooling for gaining a more comprehensive understanding of the world around us and how we can make more humane choices in interacting with other human beings and the rest of the world. •

A Disquieting View of the Southern Border

It's too bad we have come to the point where an agency like the Cochise County (Arizona) Solid Waste Department needs to put out a call for volunteers to clean up immigrant trash sites:

Information for the Second Illegal Immigrant Cleanup Event

Date: Saturday, December 6, 2003 Time: 9:00 a.m.

Location: Brown Canyon Trailhead on Ramsey Canyon Road 3 miles west from Highway 92.

Information: Parking limited, please carpool if possible. Shuttle available.

Bring: Wear long sleeve shirts, pants, and comfortable walking/hiking shoes. Cleanup site about 3/4 mile from trailhead.

Equipment: County will provide insect repellent, gloves, trash bags, water, and face masks. Volunteers will not be picking up hazardous waste and materials.

If you or your group would like to help, please contact...