FactorFiction?

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Environmental Education

As our nation continues its all-consuming pursuit of protecting the environment "regardless of the cost," we are overlooking the greatest cost of all: the toll on our children. These are words from J. Kwong,¹ who conducted an extensive review of "environmental education." She discovered a number of unsettling trends and strategies, and she reports:

- 1. Children are being scared into becoming environmental activists
- 2. There is widespread misinformation in material aimed at children

- 3. Children are being taught what to think, rather than how to think
- 4. Children are taught that human beings are evil
- Children are feeling helpless and pessimistic about their future on earth
- Environmental education is being used to undermine the simple joys of childhood.

A review by the Arizona Institute for Public Policy Research of 82 textbooks, 170 environmental books for children and 84 examples of curriculum materials provided to schools by environmental groups (and adopted uncritically for classroom instruction) found "that unbiased materials present only one side of an issue, pick only worst case examples, or simply omit information that challenges an apocalyptic outlook."²

The schools' teachings are having a powerful effect. Simon³ reports: "The consensus view of an informal *Fortune* magazine survey of high schoolers on this issue was: If we continue at the pace we're going at now, the environment is going to be

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Society of Vacuum Coaters Telephone 505/856-7188 FAX 505/856-6716 E-mail <svcinfo@svc.org> Web Site http://www.svc.org found that 47 percent of a sample of 6-17-year-olds said that "environment" is among the "biggest problems in our country these days," and 12 percent mentioned "economy" as a far distant runner-up. Compare the opposite results for the children's parents: 13 percent "environment" vs. 56 percent "economy."

destroyed completely." A 1992 poll

Have you heard about Chief Seattle? He was the leader of Puget Sound Indian tribes and is credited with delivering a speech in 1855 that resonated with environmental relevance, a Gettysberg-like tome for the environmentalist movement. He is often quoted as having said: "Every part of this earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every meadow, every humming insect. The earth is our mother—what befalls the earth befalls all the sons and daughters of the earth." Sounds great, but the chief really didn't say these words. They come from Ted Perry, a professor hired to write a documentary about pollution for a 1972 TV program. He decided to create a fictional version of Seattle's response to territorial officials' offer to buy tribal land.4-6

In spite of Perry's later protests, the speech took on a life of its own, showing up in U.S. Supreme Court Justice William Douglas' autobiography,7 Al Gore's book, Earth in the Balance,8 and in other articles. Though the truth has long since been made known, environmental groups continue to publicize the speech. It has been broadcast in at least six foreign countries.^{4,5} A children's book about the speech sold 280,000 copies in six months and was nominated for an American Booksellers Association Abbey Award.3

Some other examples: A kids page in the Sunday paper purveys such bits of "obvious wisdom" as: "It takes more than 500,000 trees to make the newspapers that Americans read on Sunday." Children are not told, however, that trees are grown and forests are created in order to make newspaper.3

Children are also taught that acid rain caused by emissions from power plants and automobiles destroy lakes and forests. They are told to mix vinegar with water and to pour it on plants to see the plants die, but aren't

told that this mixture does not resemble "acid rain" or that a \$500 million government study couldn't find convincing evidence that acid rain is destroying forests.9

MarvelTM comics has more than 70 comic book characters who developed severe physical and emotional handicaps as a consequence of exposure to radiation. The message inherent in the experience of these characters is communicated effectively to young persons and, for that matter, to many others who are not so young.10 A book titled Nuclear Power—Promise or Peril, by M.J. Daley,11 is touted as an accurate and even-handed treatment of nuclear power, but is rife with inaccuracies and antinuclear messages. Says C.E. Walter: 12 "Although technical errors load an error-ridden database into readers' minds, the true disservice to readers lies in the sometimes subliminal and often explicit unsubstantiated messages interleaved throughout the book that nuclear power is a perilnot a promise. Purportedly unbiased, actually it is not. In fact, the book is dedicated to two individuals who are associated with antinuclear groups, and Daley himself belongs to one of the groups. What really bothers me about the book is that The Science Teacher, a reputable U.S. magazine directed at high school teachers nationwide, published a glowing support of the book. Our high school students deserve accurate technical information and clear and objective discussion of social positions on technology, not the misinformation presented by the book or its review.'

In our industry, Beverly Graves¹³ mentions that her son did not learn at school that most industries have to treat the water before it is discharged; even though at home we could pour the same chemicals down the drain. She says: "This information, the ideas, the suggestions are so removed from these kids. They do not care about scrubbers on stacks, or whether or not their stuff comes in a biodegradable container. To them, muddy water is polluted, anything pouring out of a smoke stack, even steam, is polluting the air."

What To Do?

Make yourself aware of what the kids are learning about the environment in school. Don't take it for granted that

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they are getting both sides of the story. Critical thinking skills are what we want our children to develop, but to do this, both sides of an issue have to be presented. One organization that is working on the problem is he Political Economy Research Center (PERC) in Bozeman, Montana. They have developed programs to help middle- and high- school students think about the environment, have a newsletter called the *Environmental Examiner* for teachers and students, and sponsor teacher workshops around the country.¹⁴

If you're looking for books, check out *Facts*, *Not Fear*, by Sanera and Shaw.⁵ This is a good guidebook to help parents counter the irresponsible claims of environmental extremists-and to give their children a more balanced view of the many environmental issues they encounter. In simple, non-technical language, the authors explain the myths and facts concerning many major environmental topics, and show you how to set the record straight for your children (or grandchildren). Another book by

Shaw is *A Blueprint for Environmental Education*, ¹⁵ which discusses the current state of environmental education.

There is nothing wrong with teaching students about environmental issues; in fact, it is very important. They should be taught, however, the true scientific and economic complexity of these issues. When biased and misleading information about environmental issues—such as acid rain, global warming and the so-called population crisis—is used to recruit children as shock troops in a crusade to support a particular political agenda, a serious disservice is being done.

Sanera and Shaw⁹ sum it up quite well: "Environmental education could be a valuable part of science instruction. Instead, it often merely repeats the nostrums of the environmental movement, and molds children into smug crusaders whose foundation of knowledge is shaky at best." PASF

References

1. J. Kwong, *The Freeman*, **45**, 155 (March 1995).

- 2. C.J. Sykes, *Dumbing Down Our Kids*, St. Martin's Press (1995).
- 3. J. Simon, *The Ultimate Resource* 2, Princeton University Press (1996).
- 4. M. Murray, *Reader's Digest*, p. 100-104 (July 1993).
- M. Sanera & J.S. Shaw, Facts, Not Fear: A Parent's Guide to Teaching Children About the Environment, Regnery Publishing (1996).
- W.S. Abruzzi, Skeptical Inquirer, 23, 44 (March/April 1999).
- 7. W.O. Douglas, *Go East, Young Man*, Random House, p. 73 (1974).
- 8. A. Gore, *Earth in the Balance*, Plume, p. 259 (1993).
- 9. M. Sanera and J.S. Shaw, *Consumers' Research*, **80**, 15 (April 1997).
- J.P. Young & R.S. Yalow, Eds., Radiation and Public Perception: Benefits and Risks, American Chemical Society, Washington, DC (1995).
- 11. M.J. Daley, *Nuclear Power: Promise or Peril*, Lerner Publications (1997).
- 12. C.E. Walter, *Nuclear News*, **34** (Jan. 1999).
- 13. B. Graves, *Prod. Fin.*, **61**, 6 (March 1997).
- 14. Political Economy Research Center, 502 South 19th Ave., Suite 211, Bozeman, Montana 59718.
- J.S. Shaw, Ed., A Blueprint for Environmental Education, Political Economy Research Center, Bozeman, MT (1999).