

HOT AIR

Habits of Mind

By Barbara Currier Bell

The state of California is considering whether to mandate teaching global warming in schools. This is just the latest instance of a wider curricular movement sweeping the U.S., including Connecticut, called “environmental education.” The number of textbooks in the field is overwhelming. Most of them, unfortunately, don’t re-train our “common sense” or re-educate us about what we really need to know, which amounts to just a few essential habits of mind. This week, Hot Air mentions three unconventional books that belong at the top of any reading list for environmental education.

Powers of Ten (1982) is a picture book about magnitude. Based on a film by the same name that portrays the “relative size of things in the universe and the effect of adding another zero”, it covers the entire span of Nature in a series of 42 photographs indexed to a central photo looking down from about rooftop height (10^1 meters) on two picnickers in a Chicago park. Moving outward from the picnic scene in 24 photos, each enlarged exactly tenfold from the previous one, we arrive at the largest known view of the universe, dust-like galaxies at 10^{25} meters. Moving inward from the picnic scene in 17 photos, each diminished exactly tenfold from the previous one, we arrive at the smallest known view of the universe, the interior of a particle within an atom’s nucleus at 10^{-16} meters. The book helps us grasp the vast size range of Nature, from cosmic to infinitesimal.

Comparisons (1980) is an illustrated encyclopedia that compares the world’s items and phenomena in terms of fundamental measurable categories (e.g. time, temperature, calories, volume,

etc.). It answers questions such as: How efficient is the human body vs. an electric motor? Can a cheetah run as fast as the wind? If an ant were as big as an elephant could it lift more or less weight? Overlapping with Powers of Ten in some ways, but more informal and wide-ranging, Comparisons serves the same function for generalists as comparative timelines do for historians: it offers multiple facts visually displayed against steady frames of reference.

The View from the Oak: The Private Worlds of Other Creatures (1977) is less a reference book than a set of mystery stories. "We actually know very little of the world, even of what surrounds us every day." It explores time and space from the perspective of creatures who have different perceptual abilities and purposes from humans, concluding, "The human view of the world is only one of many." Dogs, bean plants, cockroaches and other living beings create (or not) their own special ways to see, hear, taste, touch and smell. The book teaches us to appreciate how and why.

These three books are accessible for children and adults alike. Although none was written recently, all are as contemporary as "An Inconvenient Truth." The facts they convey are fascinating, but not as important as environmental habits of mind: curiosity; observation; measurement; comparison; humility; discovery; respect.