

# BEFORE WE LEAP

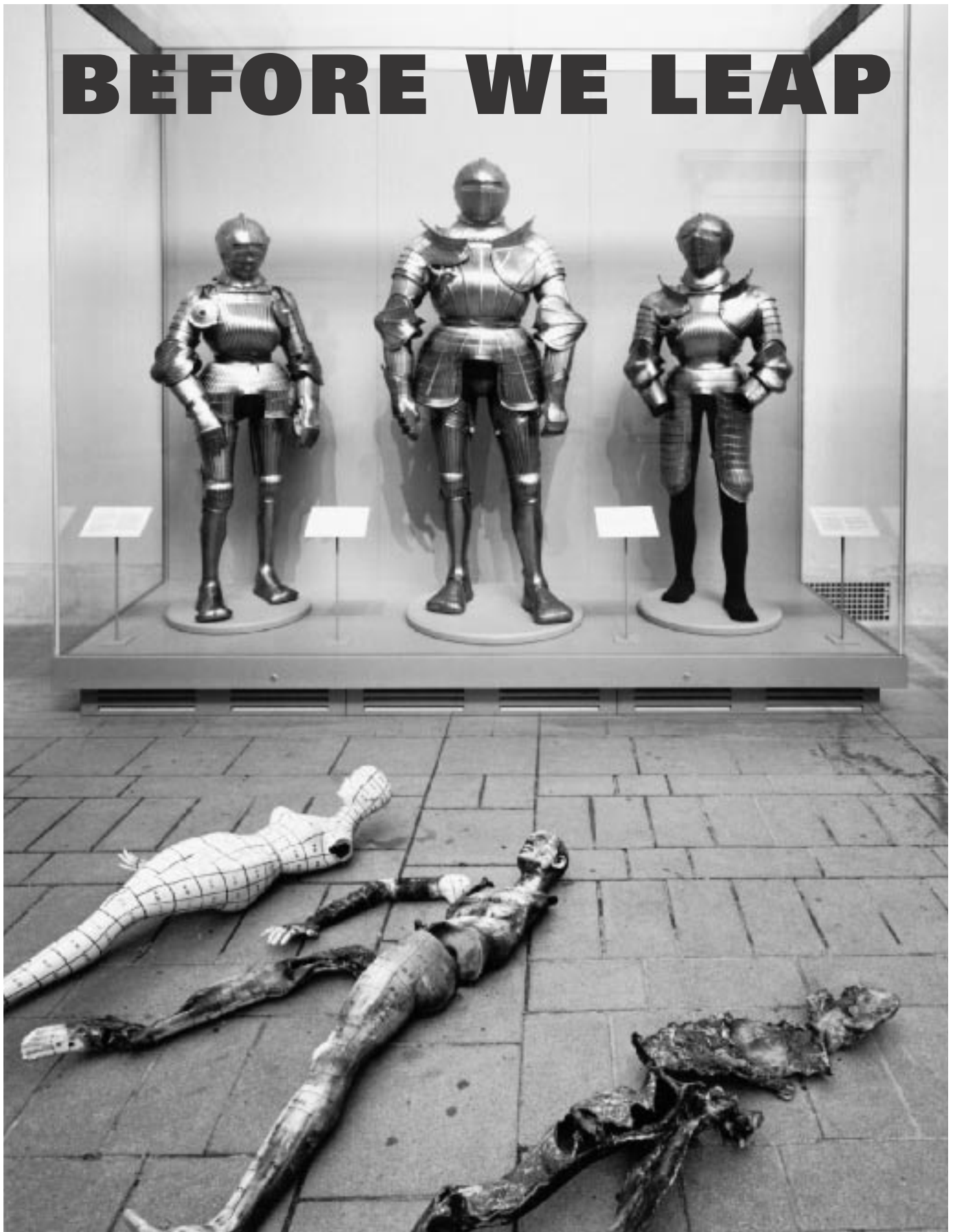


Photo: Jerry Uelsmann

# Carolyn Raffensperger On The Revolutionary Idea Of Putting Safety First

DERRICK JENSEN

**A** few years ago, Carolyn Raffensperger invited me to a gathering of twenty environmental, social-justice, and community-health activists. We were there to discuss the precautionary principle, which holds that when a substance or activity raises threats to human health, you take preventive or precautionary measures.

Although the principle seems to be common sense, our culture often encourages us to proceed despite the risks. A potential toxin is considered innocent until proven guilty, even when human or environmental health is at stake. The burden of proving that pesticide use or genetic engineering is harmful falls to the public. The precautionary principle would shift the burden of proof, and thus stop potentially damaging practices before they are implemented.

At the end of the discussion, Raffensperger walked around the room and thanked all of us publicly for our contributions. She spoke for several minutes about each person, expressing her gratitude and praising what was unique about that individual. I've seen Raffensperger in enough situations to know that this is the type of person she is. When Dutch theologian G.C. Berkouwer said, "Gratitude is the essence of ethics," he could have been talking about her.

The precautionary principle is part of the foundation of a larger movement to democratize science. The best way to protect public health, Raffensperger believes, is to take the power to make environment-altering decisions out of the hands of scientists and their employers and give it back to the people whose lives stand to be affected. Her ideas are catching on: in the past year and a half alone, Raffensperger and the precautionary principle have been featured in *Utne Reader*, *Scientific American*, and even *Gourmet* magazine.

Raised a Mennonite, Raffensperger is a lifelong pacifist. Though her first love is archaeology, she went to law school to be able to fight for the natural world in court. As an attorney, she is an avid defender of the land and all its inhabitants. Until recently, she and her husband, Fred Kirschenmann, lived on and ran a large organic farm in North Dakota. They now live in Iowa, in a big house filled with books — about fifteen thousand of them. Their large plot of land is also inhabited by hummingbirds, deer, and foxes, which she loves, if possible, even more than the books. Raffensperger is always careful to include her nonhuman neighbors in her calculations. "We are the land," she says, "and the water, and the grizzly

bears, and the soil microbes. This is not a New Age statement. It is a medical statement, a scientific statement."

Raffensperger is executive director of the Science and Environmental Health Network, a consortium of organizations promoting safe scientific practices. She coedited the book *Protecting Public Health and the Environment: Implementing the Precautionary Principle* (Island Press) and writes the "Science for Lawyers" column for the *Environmental Law Institute* journal *Environmental Forum*. Over the past fifteen years she has served on various U.S. government committees on risk assessment, pesticides, radioactive waste, and cleanup of Department of Energy facilities.

Raffensperger is an animated speaker, using her whole body to get her point across. This conversation is a continuation of a much longer one that she and I have had at conferences, in cars, and elsewhere. For the interview, I traveled to her home in Ames, Iowa, where we sat across a kitchen table that a few hours later would be covered with organic food from the farm in North Dakota.



Carolyn Raffensperger

**Jensen:** What is the precautionary principle?

**Raffensperger:** Before I say what it is, we have to understand that our scientific and political choices — and, of course, scientific choices are political choices — are all guided by principles. The principles that currently guide those choices are leading us to our own destruction and the destruction of much that we love. We need new principles that would lead to different decisions.

The precautionary principle is a simple yet revolutionary idea that turns our culture's practice of science on its head. It says that, when you have scientific uncertainty and the likelihood of harm, you take preventive or precautionary action. On the most basic level, there's nothing more to it.

This is the opposite of the current approach to environmental decision-making, which is all about measuring and managing risk. There's currently nothing in the way we approach science — or business — that says we should prevent harm. Science pretends that decimal points are more real than human values. Its mantra is "Wait for certainty."

But it's crazy to say that before we can act to prevent prostate cancer or learning disabilities — both of which have

eminently preventable environmental causes — we must first prove with 100 percent certainty that something causes harm. And if there is more than one cause, we must identify them all and rank them appropriately. But how much sense does it make to wait until your son has a learning disability or your daughter has breast cancer before you take action?

**Jensen:** What's wrong with trying to prove cause and effect?

**Raffensperger:** We need to search for cause and effect, but that is different than waiting to take action until we've proven it. And cause and effect is so difficult to prove. Maybe we could figure out cause and effect in the old days: if I hit you with my horse and buggy and broke your leg, we knew what happened. But now that we've filled our world with toxic chemicals, science is not as capable of proving the relationship between a particular toxin and a particular effect, especially if the effects are spread over long periods of time or large areas of the world. Take the problem of early puberty in girls. It could be caused by a number of things we don't know much about, such as phthalates in cosmetics, which have the potential to upset hormones. It's just not reasonable — nor very smart — to expect precise answers before we try to stop the damage.

**Jensen:** Critics have called you a "safety Nazi." Isn't there such a thing as being overprotective?

**Raffensperger:** In the United States we're all expected to be cowboys on some level: "What, you're not going to let your kids climb the apple tree? What's your problem?" We believe it's neurotic and un-American not to take risks. And there's part of me that thrives on that culture. I like experimentation and daring. But along with this American love of pioneering and risk taking, we need sentinels watching for trouble and scouts out finding good and safe paths. I prefer these images to the repressive image of the overprotective, smothering mother.

There are also those who have twisted our position around to suggest that the precautionary principle is not compassionate, because we want, for example, to make sure that a drug is safe — for those taking it, and for the larger community — before it is put into general use. The public-interest scientists and the activists I know who are working on these difficult issues show great compassion. They bear witness to the suffering, including the cause of the suffering, and they act to prevent any more suffering. Our opponents say that we want African babies to die of malaria because we would outlaw DDT. But why are we forced to choose between two terrible options? Why can't we mount a serious research campaign to find safer alternatives?

When name-calling doesn't work, we're accused of wanting to make decisions based on popular opinion or politics rather than on the sound foundations of science. But the precautionary principle doesn't reject scientific evidence; it simply calls for science to ask different kinds of questions and, in the face of uncertainty, give the benefit of the doubt to the environment and public health and the community of all beings with whom we share this earth. Doing this actually requires *more* science.

For instance, under current scientific practice, we're very concerned with avoiding false positives. But imagine turning that around and protecting ourselves just as much against false

negatives — against not seeing a connection where there is one. That would actually drive more science, because it would demand more information. Right now, if you take a water sample that shows the presence of *pfisteria*, you go back and take another sample, to be sure the first wasn't in error. But if you take a water sample that doesn't show *pfisteria* — perhaps because you miss it — that's it: you stop looking in that particular area. But you haven't proven the absence of *pfisteria* with any greater certainty than a single positive sample proves its presence. The precautionary principle says: check again.

The precautionary principle not only drives more science, it asks that science protect public health and the environment, rather than serve financial goals. Instead of asking, "Is this level of harm acceptable?" scientists should ask, "Are there alternatives that are less harmful?" We need a new social contract for science.

**Jensen:** Wouldn't this shut down the entire economy?

**Raffensperger:** We've been told that we're going to stop civilization as we know it, or that we're asking everybody to go back to horse-and-buggy days.

**Jensen:** Because if the precautionary principle had been in place a hundred years ago, there would be no automobiles?

**Raffensperger:** Probably, but that doesn't mean we wouldn't have a modern transportation system. It means we might not have used fossil fuels. It means we might actually have used human ingenuity to create a transportation system that honored our place on earth, that didn't fundamentally pollute the planet just so we could go a little faster. It doesn't mean we wouldn't have technology; it means we wouldn't have technology that is so overwhelmingly destructive.

**Jensen:** Is it even possible to predict what future harm a new technology might cause?

**Raffensperger:** Surprise is the rule rather than the exception in ecosystems, particularly when we employ a technology on a global scale rather than tailor it to the local level. It is possible, however, to scan the horizon for problems using principles of ecology and evolutionary biology. Right now, we use toxicology instead of evolutionary biology as our touchstone. As a result, we ask, "Is this safe for the 150-pound male?" rather than, "How does nature work?" We plant genetically engineered corn on millions of acres, because it seems safe to eat, and then are caught by surprise when it has environmental repercussions. We've asked the wrong questions. We don't have systems in place to catch our mistakes before they become global problems, like CFCs destroying the ozone layer.

**Jensen:** But could anyone, for example, have foreseen global warming when Henry Ford began selling the Model T?

**Raffensperger:** Global warming is a scale issue. If we'd thought about billions of cars using fossil fuels, we would have been able to predict problems. Large-scale use always has some problems attached.

**Jensen:** What about computers? They've been around for twenty-five years, and people still argue over whether they are harmful. If that question cannot be answered definitively now, how could the matter have been decided when they were just starting to be made?

**Raffensperger:** The issue is that we, the public, haven't established our goals for communications technology. Harm can result from having the wrong goal or the wrong idea about what is good. We can't decide whether computers help us meet our goals until we know what those collective goals are.

**Jensen:** How can scientists who develop a new technology predict what it will be used for in the future? What if it's harmful only if overused? Should we assume that people will abuse it?

**Raffensperger:** The trouble is that scientists are trained to evaluate new technologies only with a rudimentary cost-benefit analysis. Why aren't we grounding our scientists in ethics? Why aren't we requiring that they learn evolutionary biology — a far better basis for evaluating technology than some kind of pie-in-the-sky cost-benefit ratio?

**Jensen:** Is there any technology that literally does no harm?

**Raffensperger:** Yes: The sitar. The flute. The hoe. Knitting needles. The potter's wheel. These are all technologies that are designed for right livelihood and for making beauty.

**Jensen:** Is it the job of scientists to decide which technologies are good?

**Raffensperger:** Not by themselves. We may think scientists can make all of our decisions for us, but do we really believe that they will always have our best interests at heart? Why should we surrender the responsibility for decisions that affect our health and the health of our loved ones and our community — human and nonhuman — to distant others? Even when those scientists do have our best interests at heart, decisions that affect communities need to be made by the people in them. This is the fundamental challenge in a democracy. Right now we have ceded our decision-making authority to corporations in the guise of the "market."

It's interesting to compare our system to those of other countries. Germany is very like the United States in its love for technology and its acceptance of risk. But Germany has used the precautionary principle as a tool to force technological innovation and to clean up the most damaging and destructive technologies. This has worked well for them internally. Unfortunately, it's also proven to be a problem in international trade, because some of those new, less damaging technologies cost a bit more. The reason, of course, is that the cheaper products externalize their costs: a company doesn't have to pay for damage to a river. So comparing costs across borders isn't always comparing apples and apples.

**Jensen:** Wouldn't the precautionary principle destroy our competitive advantage the way it did Germany's?

**Raffensperger:** I would turn that question around and ask what maintaining a competitive advantage destroys. The idea that we can compete solely by lowering costs destroys. The idea that we measure our nation's wealth only in dollars destroys. What if we measured the gross national product by the number of bird nests in the environment, or the number of migratory-bird hatchlings? We would figure competitive advantage in an entirely different way. But financial competition drives a quest for a lower bottom line and increases the probability that

we're going to externalize costs onto the environment and our citizens. As science writer Janine Benyus and many others have pointed out, nature favors cooperation over competition. So, to the extent that the precautionary principle would destroy our competitive advantage, I would say, "Good."

The whole quest for competitive advantage leads to absurdity. There are some things that are just plain stupid to trade. Why are we moving bottled water around the planet using fossil fuels? Is Perrier really better than water bottled in the United States, or even tap water? This is not rational.

**Jensen:** You've said that it's not enough to avoid future problems; we have to address the problems we have.

**Raffensperger:** Yes, the precautionary principle's fundamental idea is that we prevent problems rather than clean them up or fix them afterward. And we have some laws that attempt to do this. But, quite often, we find ourselves having to clean up messes after the fact.

We've caused so many messes that we need to restore the

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environment. My friend Steve Packard and others have developed wonderful methods for restoring tallgrass prairies. We also need to clean up breast milk. Human breast milk is now one of the most contaminated food sources on the planet. Flame retardants and DDT are just two of the many chemicals found in breast milk. These substances are persistent, biocumulative, and bioactive, and are moving all over the globe on wind currents, being deposited in places where they're not used. DDT is not used in the Arctic, where there is no malaria, yet that's where the insecticide is concentrating, because of wind patterns. We need to reverse the damage we've created, to restore tallgrass prairies, marine fisheries, and breast milk. And we need to bear witness to the suffering that has already occurred through our foolishness. I want to be able to tell the young mother dying of cancer that we will do our utmost to ensure that her daughter doesn't get cancer. In so doing, we alleviate suffering.

*(end of excerpt)*