by Peter Montague

[Continuing: The current system of environmental regulation considers new chemicals and new technologies "innocent until proven guilty." As a result, the public must "prove harm" before alternatives will be considered. Such a system requires large-scale harm to occur (to humans and ecosystems) before anyone is asked to change their destructive behavior.

The present regulatory system was set up to grease the skids for economic growth, back when the world seemed empty and growth was needed to expand the supply of basic necessities. But now the world is full (of humans and their stuff), and the basic needs of everyone could be rather easily met. In this full world of abundance, further growth requires the artificial creation of "demand" through advertising, and it requires rapid innovation to churn the economy. Churning the economy is considered necessary because it offers the owning class new opportunities for profit, regardless of whether it provides any real benefits.

To defend themselves against a public that is dismayed by the high price of modern "progress," corporations have wrapped themselves in a kind of intellectual body armor called "risk assessment" and cost-benefit analysis, both of which reduce everything to numbers. As a result, decision-makers can no longer consider ethical principles of right and wrong. Democratic questions of fairness, justice and informed consent must be set aside. The public is not allowed to ask, "Is this the best we can do?" or "Who gets to decide?" But it doesn't have to be this way...

In truth, the most fundamental problems of a "risk-based" approach lie even deeper than I have so far described. Some cause and effect relationships between industrial contamination and disease will most likely never be established because causes and outcomes are multiple, latency periods are long, timing of exposure is sometimes critical, unexposed "control" populations do not exist, and complicating factors remain unidentified. In many instances, combinations of these factors are probably at work simultaneously.

Science works by simplifying reality into manageable chunks that can be manipulated under controlled conditions. Under such circumstances, science can sometimes clarify cause and effect relationships between one chemical and one disease, but in the real world, cumulative impacts of contamination from multiple sources muddle the picture in ways that are often unknowable. In many instances, no amount of time, money, expertise, epidemiological investigation, or laboratory work can resolve this fundamental conundrum. Because of these realities, we are often faced with strong suspicion of harm combined with irreducible scientific uncertainty and ignorance. Under these circumstances, reliance on the "prove harm" system can only lead to the steady erosion of human health and the biosphere, upon which our entire economic enterprise depends.

So the "prove harm" (or "assimilative capacity") system of environmental protection, based on risk assessment of single options, stands discredited, bereft of scientific integrity or validity. The system is intellectually bankrupt and has always been so. A cynic might conclude that the system was designed to fail and its design goal has been met.

Happily, there is another way. The European Union (E.U.) in 1994 adopted a different approach to environmental protection, based on the "precautionary principle," and reaffirmed the approach in 2000.[1] The E.U. and its member nations are presently working out the details of coherent chemicals policies based on precaution. If they succeed, it will undermine the "growth and rapid innovation" culture. Perhaps this is why the U.S. has mounted a major campaign to block the European effort, using name-calling, lawsuits, and open threats of commercial, financial and political retribution.[2]

The "precautionary principle" evolved in the 1970s from a concept that was developed to guide environmental planning in Germany, "Vorsorgeprinzip," which translates best as "the principle of forecaring" but which also carries the connotation of foresight and preparation for the future, not merely precaution. In recent years this new idea has made its way into several international covenants and treaties.

For example, the precautionary principle appears in Principle 15 of the 1992 Rio Declaration on Environment and Development, as follows: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." "Cost-effective" means "least expensive."

Another formulation of the precautionary principle is known as the Wingspread Statement on Precaution, which says, "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

"In this context the proponent of an activity, rather than the public, should bear the burden of proof.

"The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action."[3]

The Essence of Precaution:

In all formulations of the precautionary principle, we find three elements:

1) When we have a reasonable suspicion of harm, and
2) scientific uncertainty about cause and effect, then
3) we have a duty to take action to prevent harm.

The precautionary principle does not tell us what kind of action to take when we have reasonable suspicion of impending (or ongoing) harm. But the Wingspread statement offers these suggestions for action:

1) Consider all reasonable alternatives and adopt the least-damaging;

2) Place the burden of proof of acceptable harm onto the person whose activities raised the suspicion of harm in the first place;

3) In making decisions, fully involve the people who will be affected.

In sum, the precautionary principle says we should all take responsibility for our own actions. This simple prescription runs contrary to the fiduciary obligations of the large, publicly-traded corporation. The managers and directors of a publicly-traded corporation are required by law to try to return a more-or-less steady profit to investors by any legal means necessary. This legal requirement to consider profit above all else creates a powerful incentive for the modern corporation to "externalize" its costs -- that is, to get the public to pay as many of the corporation's costs as possible, ranging from the cleanup of toxic waste to medical care and disability payments for a damaged workforce.

Other ways of stating the precautionary principle are more familiar: a stitch in time saves nine; look before you leap; an ounce of prevention is worth a pound of cure; do unto others as you would have others do unto you; better safe than sorry. Thus the precautionary principle has immediate appeal to most people because they can understand it, and it makes sense to them.

The key difference between the "prove harm" system and the "precautionary" system is the way each responds to scientific uncertainty. Under the "prove harm" system, scientific uncertainty creates a green light -- full speed ahead until someone can line up the dead bodies. Victims must prove harm before decision-makers can act.

Under a precautionary approach, scientific uncertainty flashes a yellow light or a red light -- urging us to take preventive action, assess all available alternatives, shift the burden of proof of safety onto the proponents of a questionable activity, and move ahead slowly (if at all) until we have a better idea of what we're doing. Thus this new approach harnesses scientific uncertainty to protect the environment and human health. But it also demands a slower pace of innovation because it requires careful consideration about future consequences.

Shifting the burden of proof requires the purveyors of exotic chemicals (or other novel technologies) to provide evidence that their activities will not interfere to an unacceptable degree with living things -- and of course "acceptable" requires an informed judgment by those affected. A precautionary approach puts the burden of proof on the corporate sector to produce information, not on government or the public. Legal scholar Margaret Berger has proposed that we create a new toxic tort that would condition culpability on the failure to develop and disseminate significant data. Berger says, "In order to minimize risk in the face of uncertain knowledge, the law ought to concentrate on developing the required standard of care regarding a corporation's duty to keep itself reasonably informed about the risks of its products. If a corporation fails to exercise the appropriate level of due care, it should be held liable to those put at risk by its action."[4]

Science gets at the truth through an open process of criticism and revision; precautionary decision-making works by a similar open process, respecting the fundamental democratic principle that citizens should have a real say, at least some of the time, in the decisions that affect their lives.[5] In 2001 the European Commission of the E.U. proposed a new policy for chemicals, called REACH (Registration, Evaluation, Authorization of Chemicals). The original REACH proposal would have required safety testing of 30,000 chemicals now on the market in Europe, and pre-market testing of new chemicals. The proposal has been summarized as, "No data, no market." The EU had formally estimated that the REACH proposal would cost the chemical industry $36 billion but would avoid $60 billion in health costs to the public. Despite these public health benefits and the obvious common sense of testing chemicals for safety, the U.S. government and the global chemical industry weighed in heavily against REACH, and, according to documents leaked by United Press International, "The United States has got 90 percent of what it wanted."[6] The final REACH proposal requires testing of only about 6000 chemicals, and it may be watered down further before it becomes law. The dispute over REACH gave us all a glimpse of the raw power and ethical priorities of the wealthiest 1% of the population.

As the European Union works out the details of its new approach to chemicals policy, we can all keep abreast of their work at http://www.chemicalspolicy.org, a web site maintained by the Lowell Center for Sustainable Production at University of Massachusetts at Lowell, and at http://europa.eu.int/comm/environment/endocrine/index_en.htm, a web site on hormone-disrupting chemicals and precautionary action, maintained by the European Commission.

No matter what the outcome of this particular skirmish in the chemical wars, the precautionary principle has now been adopted, in one form or another, in many international treaties and conventions, such as the North Sea Declaration (1987), The Ozone Layer Protocol (1987), the Ministerial Declaration of the 2nd World Climate Conference (1990), the Maastricht Treaty that created the European Union (1994), The United Nations Law of the Sea (2001), and the Cartagena Protocol on Biosafety (2000), among others. In the summer of 2003, the City and County of San Francisco adopted precaution as a guide for all their environmental policies. The handwriting is on the wall.

It must be obvious that these precautionary ideas are profoundly subversive of "business as usual," which is to say, growth and innovation at any cost. Systematically assessing alternatives, by itself, would alter the rapid innovation system because alternatives assessment asks, "What are we trying to accomplish and what is the least-damaging way to
accomplish it?” It would even ask, "Might we be better off without this particular innovation?” These are questions we could have been asking profitably for more than a century.[7]

If we learn to apply a precautionary approach to such questions routinely, we may yet find ways to bring the chemical wars to a peaceable close and stop the massive killing that the chemical industry is causing today.

Conceivably, we might even be able to solve the riddle of Humpty-Dumpty and put the world back together again. But to do so would require us to make explicit the values underlying our contemporary culture of rapid innovation and growth. To what extent are we willing to share our good fortune with those less fortunate than ourselves, within our own society, and world-wide? Will tiny elites continue to amass uncountable wealth and unaccountable power, or will a spreading precautionary approach allow us, as a society, to take firm steps to reverse these destructive trends and restore democracy?

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