

“Errors of omission vs. commission in environmental policy”

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Richard’s maxims are useful corrections to common mistakes in decision analysis that are hidden in what is widely taken to be unassailable common sense. What could be more universally accepted as wise words to live by, in the medical profession and beyond, than the apparent truism, “First, do no harm.” This principle, based on a line in the Hippocratic oath, seems to say, “errors of omission should be weighted zero, relative to errors of commission.”

For example, if a doctor contemplates a surgical procedure for a dying patient that has a 90 percent chance of fixing the problem and a 10 percent chance of resulting in immediate death, a literal interpretation of “do no harm” would be to forego the surgery and let the patient die in the near future. Richard would of course say that the right answer from the probability-weighted average of outcomes is to go ahead with the surgery.

By the way, I have no problem if someone wants to justify “do no harm” as a three-word summary of the idea that surgeons might sometimes be too quick to operate. It would serve as a recommendation to lean toward conservative treatment, thereby counteracting the temptation to “apply your hammer to everything that looks like a nail.”

Public policy applications of Richard’s maxim “Errors of commission should be weighted the same as errors of omission” arise in environmental policy. Some, especially in Europe, have a fear of new and unfamiliar technologies in general. The claim that the burden of proof lies with the innovation, rather than symmetrically with the status quo, sometimes goes under the name of the “precautionary principle.” It helps explain the tendency to forget to compare the worst-case risks of the new technology with the known downsides of the old technologies.

One example is genetically modified organisms (GMOs). This policy issue first came to my attention as a member of President Clinton’s Council of Economic Advisers. It is true that a fundamentally new technology tends to pose risks that are unknown. Let us say that there is some small probability of doing some harm (an error of commission). That is no excuse for neglecting to weigh in the balance the known risks of the existing technology (an error of omission). In the case of genetically modified crops, costs of doing without them include greater need for insecticides and possible food shortages in poor countries.