

Rachel's Environment & Health News

#394 - Risk Assessment -- Part 2: Judge Breyer's Prescription For Risk

June 15, 1994

Reluctantly, President Clinton has nominated Stephen Breyer to the Supreme Court of the United States. Mr. Breyer presents himself as an expert on risk assessment; he has even written a book on the subject, **BREAKING THE VICIOUS CIRCLE**, subtitled **TOWARD EFFECTIVE RISK REGULATION**.^[1] Examining Mr. Breyer's book on risk provides an opportunity to extend our discussion from last week about the insuperable shortcomings of risk assessment. It will also help us learn what Mr. Breyer believes about risk in a democracy.

Risk assessment has 4 parts, says Mr. Breyer [pg. 9]: (1) identifying the potential hazard (i.e., defining the toxicity of the substance in question); (2) drawing a dose/response curve (i.e., deciding how much of a substance will cause how much damage); (3) estimating the amount of human exposure; and (4) categorizing the result (i.e., putting it all together to state the probability of a certain kind of damage).

Mr. Breyer says 2 of these 4 steps are particularly difficult: "In carrying out these activities, particularly in making dose/response and exposure estimates, regulators often find that they simply lack critically important scientific or empirical data: they do not know how many Americans inhale how much benzene at gasoline stations; they do not know the extent to which the biology of a rat or mouse resembles, or differs from, that of a human being. In such instances, they will often make a 'default assumption'--a formalized guess--designed to fill the gap and to permit the regulator to continue the analysis." [We note that Mr. Breyer is in complete agreement here with the risk expert we quoted last week, Joseph V. Rodricks; what Mr. Breyer calls "default assumptions," Mr. Rodricks called "science policy choices" but they are the same thing -- informed guesses.] Guesses to fill data gaps are not science. They are political judgments.]

Having defined risk assessment [correctly, we believe], Mr. Breyer now describes the larger problem of regulating risks, or "the vicious circle." The problem has 3 parts: public perception, Congress, and uncertainties in the regulatory process.

The problem of "public perception" is that the "experts" and the public often disagree on what's an important risk. For example, Mr. Breyer says, the public ranks toxic dumps and nuclear power as big risks but the experts rank them as small risks. [pg. 33]

The problem with Congress is that it is "not institutionally well suited to write detailed regulatory instructions that will work effectively" because (a) it writes one law at a time, (b) its committees have various priorities, and (c) "Finally, Congress is highly responsive to public opinion, as it ought to be." Even though Congress "ought to be" responsive to public opinion, the public "finds it difficult to order risk priorities" and therefore Congress has the same difficulty. [pg. 42] For these reasons, Congress can never be effective at dealing with risk, in Mr. Breyer's view.

The 3rd element of the "vicious circle," Mr. Breyer says, is the "enormous uncertainties, almost inevitably present, in any practical regulatory effort to carry out the four stages of risk assessment earlier described-- identifying the hazard, relating response to dose, estimating exposure, and characterizing the risk." [pg. 43]

The discipline called "toxicology" is part of the problem, says Mr. Breyer. "Like civil engineering, toxicology embodies as a disciplinary canon the importance of 'erring on the safe side.'" This assumption that we should err on the side of safety is a key part of the problem, Mr. Breyer says. He says, "Two scientifically plausible models for the risk associated with aflatoxin in peanuts or grain may show risk levels differing by a factor of 40,000." From this, Breyer concludes that, "With estimates that vary by such magnitudes, a simple retreat to the toxicological principle of erring on the side of safety will not solve the problem." [pg. 45]

He then goes on to emphasize how little science can actually tell us

about the effects of most toxins on human health [again, agreeing with toxicologist and risk assessor Joseph V. Rodricks, whom we quoted last week]. Then Breyer says, "These uncertainties, knowledge gaps, default assumptions, guesses, and communications difficulties, all embodied in the technical regulatory process, spell trouble.... Such a system, in respect to small risks, and with assumptions of varying reasonableness, can produce random results." [pg. 48]

These uncertainties become political opportunities, Breyer says: "The very fact that the many assumptions required by uncertainties are not clearly derivable from science can make them a lightning rod for contending political forces. Regulatory bodies, after all, are politically responsive institutions, with boards, commissioners, or administrators appointed by the President, confirmed by the Senate, written about by the press, and, from time to time, summoned by Congressional committees to give public testimony. Their agendas, within limits, respond to the public's demands. Their choices of default assumptions, to a degree, can respond to the desire of the President, Congress, Congressional staffs, interest groups, or the agencies themselves to appear especially careful to err on the safe side, or, alternatively, to show sensitivity to economic costs." [pg. 49]

Having established that risk assessment is a highly political, not a scientific, enterprise, and is subject to pressures from "the public's demands," Mr. Breyer develops his solutions:

We can't change people, and we can't change Congress, so we've got to change the third element of the "vicious circle," Mr. Breyer argues. We've got to change the regulatory process.

Mr. Breyer's solution is a "small, centralized administrative group" [pg. 60] whose mission will be to develop risk regulations. This group must have 5 characteristics [pgs. 60-61]:

(1) a mission to develop a risk-regulating system, to create priorities within government programs, and to determine how to allocate resources to reduce risks.

(2) Interagency jurisdiction, to transfer funds, say, from the toxic waste program to vaccination programs and prenatal care, for example, Mr. Breyer says.

(3) A degree of "political insulation" so it can withstand "political pressures" that "emanate from the public directly or through Congress or other political sources."

(4) Prestige, so it can attract a capable staff.

(5) Authority, so that it has "a practical ability to achieve results," Breyer says. [Later, on page 72, Breyer suggests giving the group real power: "perhaps such a group would begin to consider whether proposed rules, regulations, or major agency actions are 'arbitrary, capricious, an abuse of discretion'--a legal authority that would bring with it enormous power," Breyer says.]

Are you getting the picture? Mr. Breyer says our problem is that we're wasting money on insignificant problems like toxic chemicals and nuclear power regulation. This occurs because the "experts" are outweighed in the political process by the general public, operating through Congress. The general public has different priorities from the experts. Congress listens too much to the public and not enough to the experts. Mr. Breyer is clearly saying, what we need is an elite corps of experts to make decisions for us about risk.

How would this elite group of risk assessors, empowered to create priorities, allocate resources, and achieve results, really work? Mr. Breyer offers 5 hints:

(a) They might simply declare some risks too small to worry about. These would be termed de minimus risks. [pgs. 64-67]

(b) They would call upon risk assessment expertise from outside government.

circle; risk assessment; supreme court; democracy;

(c) The group would develop "models" to achieve "higher quality analysis and better results." In other words, better risk assessments.

(d) The group could develop a "risk agenda" and then look for practical ways to save money on some programs and transfer those funds to other programs. Here Breyer repeats his example of taking funds away from toxic waste cleanup and transferring them to pay for vaccinations, or prenatal care, or mammograms. [Clearly Mr. Breyer believes we are a society that cannot afford to clean up toxic wastes AND vaccinate our children AND provide prenatal care AND provide mammograms.]

(e) They might consider the risk-related impacts of future scientific changes, Breyer says: "Suppose, for example, that medical research identifies particular groups of persons genetically predisposed to develop cancer when exposed to certain chemicals. Society should not ignore their special plight. Yet it may prove nearly impossible, and sometimes inordinately expensive, to grant them a 'right' to the lowest possible risk and then limit society's use of chemicals to which they specially react. It might well be more effective to provide them with special counseling that includes information about how to avoid exposure to the carcinogens to which they are particularly susceptible." [pg. 67]

[Mr. Breyer is clearly ready to have his elite group declare null and void every citizen's right to clean air and water. And what about his suggestion that, instead of controlling toxic releases, we should tell people how to avoid particular toxins? How would we tell the eagles and the salmon to avoid toxins? Or don't they matter?]

Are there any precedents for similar groups operating anywhere in the world? Yes, says Mr. Breyer, France has the Conseil d'Etat, an elite civil service group that reviews the "administrative lawfulness" of government actions and proposed regulations. Is there any precedent in the U.S.? Yes, says Mr. Breyer; one is "the Armed Forces--not an open institution, but one which has successfully carried out its mission." [pg. 78]

Mr. Breyer does not seem to recognize that the chemical risk problems he seeks to remedy were created chiefly by two institutions: the armed forces, and private industry. Historically, both these institutions have enjoyed almost complete "political insulation" of the kind Mr. Breyer advocates for his elite corps of risk assessors. Furthermore, both of these institutions have always had access to the best technical experts money can buy. Indeed, technical experts shielded from political accountability were, and are, the main engine driving the global environmental crisis.

As for developing better risk assessments based on "better models": if science cannot provide consistent and reproducible results about risks, as Mr. Breyer correctly says science cannot, then his "better models" cannot be based on science. They must therefore be based on political judgments. Whose judgments? Those of Mr. Breyer's elite corps of politically insulated risk experts.

Is Mr. Breyer's final solution better than the democracy presently written into our Constitution? All we can say is, it would certainly be radically different.

--Peter Montague

=====

[1] Stephen Breyer, *BREAKING THE VICIOUS CIRCLE* (Cambridge, Ma.: Harvard University Press, 1993).

Descriptor terms: bill clinton; stephen breyer; breaking the vicious