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IN THE REGULATION OF MANMADE CARCINOGENS, IF FEASIBILITY ANALYSIS IS THE ANSWER, WHAT IS THE QUESTION?

*Christopher H. Schroeder**

ENVIRONMENTALLY INDUCED CANCER AND THE LAW. By *Frank B. Cross.* New York: Quorum Books. 1989. Pp. xv, 229. $45.

I

For more than a generation, cancer has been America's most feared disease. Cancer deaths are frequently long, debilitating, and inexorable. In addition to its toll on its immediate victims, cancer brings extended grief and, all too frequently, financial disaster to the families of its victims. In the early part of this century, the disease was not so singled out for attention — tuberculosis, polio, bubonic plague, malaria, and measles all competed with cancer for attention as public health problems and for primacy in each citizen's private economy of dread. Now, medical science has largely mastered treatments and preventions for these other diseases, leaving cancer with fewer competitors.[1] Eliminating these rival sources of death has done more than simply leave cancer with fewer challengers; because people no longer die of these other afflictions, our life-spans have been increased sufficiently so that cancer, typically a disease of the middle-aged and elderly, has a much greater opportunity to claim its victims (pp. 17-18).

Americans are convinced that our advances in science play another major role in cancer causation, thereby contributing to its prominence as a public concern in yet another way. Numerous chemicals now used throughout the American economy have been linked to cancer, either through epidemiological studies of groups with an abnormally high incidence of cancer, especially workers in chemical and chemical-related industries, or through laboratory experiments on animals. Many of these chemicals, such as the synthetic hydrocarbons that form the basis of the plastics industry, were literally unknown to the planet before the Second World War. Others, like asbestos, were not a substantial problem until industrial uses dramatically expanded their

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1. Recently Alzheimer's disease and, even more recently, AIDS have begun to rival cancer as sources of fear and unease among the general population.

dissemination. By virtue of scientific advance, we are guilty of fouling our own nest in an especially dreadful way.

Given the vast positive contributions of postwar technology to our modern standard of living, such manmade sources of cancer might have emerged in our social and cultural constructions as the grim but inevitable product of a bargain struck so that we might reap the benefits of the Chemical Age. In fact, this is not at all how the problem of manmade carcinogens is perceived. Most Americans do not associate the responsibility for such sources with the "us" of the Pogo comic strip.[2] Instead, they see villains and victims, those who have reaped the benefits and those upon whom cancer has been imposed. There are just enough stories around of companies suppressing evidence of cancer risks or acting in apparent disregard of substantial risks to fuel the perception of manmade chemicals as the victimization of the American populace.[3]

Substantial fear of bodily harm, combined with a perception that some other persons are responsible, produces enormous pressure for governmental action and legal redress. While conventional tort litigation is an obvious starting place for such redress, cancer has proven highly resistant to the established doctrines of tort and nuisance.[4] Even if common law tort actions had proven more adequate, political entrepreneurs would probably have packaged legislative proposals to address cancer fears. As it was, the overwhelming failure of tort to assuage Americans' sense of indignation virtually ensured a large volume of legislation aimed at the cancer risk. In the past twenty-five years, Congress has written a vast array of legislation aimed at reducing exposures to manmade cancer agents.

Perhaps a vast *dis*array of legislation would be a more apt description. Throughout this past quarter century, politicians, industry, environmental organizations, and federal agencies have been struggling to define an appropriate policy toward manmade carcinogens. The result of all this "policymaking" has been a patchwork of some twenty or so separate statutes that exhibits few unifying principles. Its burdensome

2. "We have met the enemy, and he is us."

3. See, for example, the account of the asbestos industry's apparent coverup of medical concerns about exposure to airborne asbestos in P. BRODEUR, OUTRAGEOUS MISCONDUCT: THE ASBESTOS INDUSTRY ON TRIAL (1985).

4. To date, the most intractable obstacle has been the requirement that a plaintiff be able to prove cause-in-fact by a preponderance of the evidence. Given our present inabilities to link cancer to specific causes, the typical cancer plaintiff will be unable to sustain that burden. The more we learn about cancer etiology, the more difficult it becomes to isolate single causes. *See, e.g.*, pp. 3-16. Critiques of tort's cause-in-fact requirement, proposals to reform that requirement, as well as analyses of other doctrinal obstacles facing the typical cancer plaintiff, are extensive. In addition to pp. 161-217, see, for example, Farber, *Toxic Causation*, 71 MINN. L. REV. 1219 (1987); Ginsberg & Weiss, *Common Law Liability for Toxic Torts: A Phantom Remedy*, 9 HOFSTRA L. REV. 859 (1981); Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849 (1984); Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL STUD. 779 (1985).

and sometimes conflicting mandates have created a Gordian knot that administering agencies have been largely unable to cut. Agencies have been slow to regulate any manmade chemicals at all; they have apparently ignored serious risks while acting against relatively trivial ones (p. 126), and the regulations they have produced bear no consistent relationship to one another or to any discernible principle of regulatory decisionmaking.[5] Some fair portion of their energies are dissipated attempting to torture impossible statutory commands into some defensible course of action that comports with "administrative reality" (p. 129). In short, statutory implementation can best be characterized as one of "delay, ineffectiveness, and inconsistency" (p. 129).

Among the more puzzling attributes of this regulatory disarray, federal cancer laws employ several fundamentally different regulatory techniques.[6] In *Environmentally Induced Cancer and the Law,* Frank Cross[7] identifies four such techniques, or "paradigms" for cancer control — "zero risk," "significant risk," "cost-benefit analysis," and "feasibility analysis" (p. 69). Some of the important differences between these techniques can be illuminated by treating them as instances of three more general categories. Thus, zero risk and significant risk are members of the broader category of health-based standards, cost-benefit is a special case of balancing standards, and feasibility analysis is a technology-based standard.[8]

Health-based standards mandate that exposure levels be set to ensure against stipulated health risks or adverse environmental effects. The process of setting permissible levels under health-based standards[9] theoretically ignores the costs of complying with them.[10] Such stan-

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5. See, for example, Cross's description of divergences of approach and policy by the Consumer Product Safety Commission, the Environmental Protection Agency, and the Occupational Safety and Health Administration in deciding whether and how to regulate formaldehyde. Pp. 102, 122, 126.

6. Indeed, this is a puzzle that extends to pollution policy generally, not just to cancer policy. *See, e.g.,* McGarity, *Media-Quality, Technology, and Cost-Benefit Balancing Strategies for Health and Environmental Regulation,* LAW & CONTEMP. PROBS., Summer 1983, at 159.

7. Associate Professor of Business Law at the University of Texas and Associate Director of the Center for Legal and Regulatory Studies.

8. For a more detailed discussion of these regulatory types, see R. PERCIVAL, A. MILLER, C. SCHROEDER & J. LEAPE, ENVIRONMENTAL LAW 145-59 (1989). Professor McGarity employs a nearly identical organizational approach in McGarity, *supra* note 6. *See also* Rodgers, *Benefits, Costs and Risks: Oversight of Health and Environmental Decisionmaking,* 4 HARV. ENVTL. L. REV. 191 (1980).

9. Nonhuman health, environmental, or public welfare effects are relevant to the standard-setting process under many of the statutes that regulate carcinogens, but the human health effects largely dominate the debate over appropriate levels of control, so we can designate these statutes as "health-based" without much loss of descriptive accuracy.

10. For instance, the Clean Air Act requires the EPA to set ambient air quality levels for the most widely prevalent air pollutants at a level requisite "to protect human health." When Congress has clearly instructed the EPA to ignore costs, the courts have upheld the instruction. *See, e.g.,* Lead Indus. Assn. v. EPA, 647 F.2d 1130 (D.C. Cir. 1980). *See generally* TVA v. Hill, 437 U.S. 153 (1978).

dards can be pegged to different levels of protection. Cross' zero-risk paradigm seeks to eliminate the risks of all adverse health effects, while the significant risk approach reduces risk levels not to zero, but down below the level determined to be significant to society.

Sometimes statutes instruct the agency to balance the benefits of controls against the costs of installing such controls.[11] None of the federal balancing statutes requires agencies to conduct a fully quantified cost-benefit analysis; instead, they leave to the agency's discretion the politically sensitive task of specifying the details of how this "balance" is to be struck.[12] Still, Cross' paradigm of cost-benefit analysis is the specific balancing method that draws the most attention. Devotees often use it as the ideal toward which all our regulatory efforts should tend, while critics, especially environmentalists, treat it as their primary enemy.

Health-based standards peg regulation to desired health risk reduction while ignoring the costs of achieving those reductions; balancing standards compare those reductions with such costs. The third basic type of standard concentrates on costs and ignores health risk reductions. Such approaches can be labelled technology-based, because the level of pollution control depends on analyses of technology that might be employed to abate or control exposure. As with health-based standards, it is possible to calibrate technology-based standards to various levels of stringency, sometimes by specifying how much cost the industry is to bear, sometimes by limiting the sophistication of the technology upon which the standard will be based. Regulatory statutes that deal with toxic chemicals and carcinogens by employing a technology-based standard typically require allowable discharges to be set at the level achievable by employing the best available technology that the target industry can afford to install. Cross terms this approach "feasibility analysis."[13]

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11. *See, e.g.*, the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136(bb) (1988) (requiring the EPA to ensure that approved pesticides not pose "unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of [their] use").

12. While the balancing statutes enacted by Congress do not mandate quantified cost-benefit analysis, Executive Order 12,291, signed by President Reagan in 1981, does mandate that major federal rules be preceded by a Regulatory Impact Analysis that identifies benefits and costs and that chooses the regulatory option that maximizes net benefits to society. Exec. Order No. 12,291, 3 C.F.R. § 127 (1982), *reprinted in* 5 U.S.C. § 601 app. at 473-76 (1988). Because maximizing net benefits seems to require as fully quantified a cost-benefit analysis as possible, E.O. 12,291 and its implementation by the Office of Management and Budget have been taken to establish a presumption in favor of quantification. *See* DeMuth & Ginsburg, *White House Review of Agency Rulemaking*, 99 HARV. L. REV. 1075 (1986).

13. An example of a different technology-based standard is the "best practicable control technology currently available," which water pollution dischargers were required to install by 1977. *See* 33 U.S.C. §§ 1311(b)(2)(A), 1314(b)(1)(A) (1988). This standard requires industries to employ existing pollution control technology to reduce water pollution discharges until the costs of removing additional increments become *"wholly out of proportion"* with the costs incurred to remove earlier increments. *See* Weyerhaeuser v. Costle, 590 F.2d 1011, 1045 n.52

When applied to any particular pollution problem, these three basic approaches lead to three different levels of pollution control, sometimes to three wildly divergent levels of control. Much of the sense of confusion attending federal regulation of carcinogens, and a great deal of the inconsistency in regulatory actions taken by federal agencies, can be attributed to the concurrent existence of these incongruent approaches, with no clearly articulated explanation for when each of them is most appropriate. Not only do they deprive our cancer prevention efforts of any coherent justification, the way some of them have been implemented by federal agencies has contributed to the delay and inactivity characterizing our regulatory efforts.[14]

II

Cross seeks to bring some order and common sense to this general picture by injecting an element of realism and pragmatism into it (p. xv). To begin, he depicts cancer policy as stalemated between two unrealistic extremes. On one side stands a cadre of "zealous environmentalists" who insist that the zero-risk strategy is the only one acceptable to deal with a cancer epidemic. Cross thinks this position is ultimately "ridiculous" because it fails to recognize that social needs other than cancer avoidance also make valid claims on scarce resources (pp. 69, 71). In Cross' view, the ability of zero risk to gain any audience is attributable to its advocates' misinforming the public about the magnitude of the cancer risk.

To set the record straight, he marshals evidence showing that America's fear of the manmade sources of cancer "has been exaggerated considerably" (p. 17). Statistics show that death rates for most cancers in the United States have actually declined in this century, once the data have been adjusted to account for the aging of the population. The singular exception is lung cancer, the one cancer whose dominant cause is acknowledged to be a "life-style" choice — smoking — and not any industrial pollution or discharge (pp. 18-19). In fact, the widely publicized notion that ninety percent of cancers come from "environmental causes" trades on a misunderstanding of the original study that first drew this conclusion. That study employed the term "environmental" very broadly, to include such life-style factors as smoking and dietary practices in addition to manmade pollution (pp. 18-19). Cancers caused by the dissemination of manmade chemicals are actually a distinct minority of the cancers that occur in the United States today. The leading comprehensive study on the subject concludes that less than ten percent of current cancers are attributable to

(D.C. Cir. 1978) (quoting legislative history; emphasis in original). These controls have been less costly and less stringent than feasibility-based controls. *See* EPA v. National Crushed Stone Assn., 449 U.S. 64 (1980).

14. *See* pp. 97-133 (discussing implementation efforts).

pollution, food additives, pesticides, and occupational exposures.[15] In Cross's view, this "realistic" appreciation for the magnitude of the problem ought to modulate society's urge to remove *all* such risks from the environment, a position he regards as "too facile" and ultimately ineffective (pp. xiv-xv).

This does not mean, however, that there are no legitimate grounds for demanding that manmade causes be reduced from their current levels. Although the cancer situation is not as dire, in historical perspective, as commonly supposed, and although manmade sources are not the entire explanation of the danger that does exist, frequently cancers caused by manmade sources *are* preventable. So another "extreme" position rejected by Cross is the do-nothing position of "representatives of industry [who] seek[ ] to avoid all regulation" (p. 142). The ambition of federal policy, Cross concludes, ought to be to steer a moderate course between zealous environmentalists, who want all risk from manmade sources eliminated, and industry leaders, who want no regulation at all (pp. 142-47). "[S]ociety's optimal response to the problem lies between these two poles" (p. 15).

Having stripped away the extremes, Cross advances a number of "pragmatic" reform suggestions to move in a moderate direction and hence improve federal regulatory performance.[16] He still has at his disposal three of his four initial regulatory paradigms, one from each of the more general categories referred to a moment ago: significant risk, cost-benefit analysis, and feasibility analysis. Any of these three paradigms might serve a policy of moderation, because all of them lie somewhere between the extremes of zero risk and no additional controls.

In perhaps the most interesting proposal of the book, Cross argues that federal regulatory policy should primarily rely upon feasibility analysis (p. 90). Regulation based on feasibility analysis, he says, is superior to the other two for an apparently simple reason: whenever federal agencies have utilized feasibility analysis to mandate the "use of available, effective technology to reduce exposure to carcinogens as far as reasonably possible," this approach to regulation has proven the "most effective" (pp. 90, 147).

In reaching that judgment, Cross relies heavily on our twenty-five-odd years of experience in trying to implement statutes that employ different versions of the three basic types of regulation. By attending to the lessons of history, he suggests, we can improve on our current regulatory patchwork, which has supplied us with real-world experience with each major type of regulation. That experience seems to

15. Doll & Peto, *The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today*, 66 J. NATL. CANCER INST. 1191 (1981).

16. Pp. xiv-xv. The concluding portion of the book addresses tort reform. This review focuses on his critique of the federal regulatory system and his proposals for its reform.

reveal a pattern: when agencies operate under the mandate of technology-based controls, they are able to write a higher volume of regulations, have those regulations survive court challenges, and subsequently see them through to implementation by affected industries, as compared to insubstantial progress when they use either health-based or balancing approaches.[17]

Learning from our regulatory experience is both possible and essential. By presenting a skillful summary of an extraordinarily complex past, Cross contributes importantly to that process. The book's lessons from history do not, however, provide sufficient support for the choice of feasibility analysis, in part because such history lessons are inherently equivocal, a point to which I shall return in a moment.[18] Even assuming that history speaks with one voice, what we hear from that voice will depend upon what we want it to say. When we mine history for its "lessons," as we do when seeking guidance concerning contemporary public policy issues, we inevitably bring some vision of normative order or desirable practices to our reading. *Environmentally Induced Cancer and the Law,* although an impressive book, ultimately does not succeed in presenting a compelling case for feasibility analysis because it fails sufficiently to articulate the desirable goals that environmental policy ought to serve. The following section amplifies on this point.

III

No regulatory technique is immune from criticism, as Cross clearly knows. The chapter in which he critiques each of his paradigms is the most thought-provoking of the book (pp. 69-95). That being the case, the choice of one over the others must depend upon which combination of advantages and disadvantages supplies the best mix. Policymakers in this field, in other words, must necessarily be "quasi-utopians," interested not in "perfection but [in] tolerable imperfection, tolerable because it is better than anything else they consider attainable though not nearly as good as lots of alternatives that can be imagined."[19] This much is surely consistent with the book's call for a pragmatic approach.

However, the book fails to confront an underlying difficulty. Ascertaining which of several options is "better" demands some criterion

17. *See* pp. 97-134. Cross' excellent summary of regulatory experience concentrates on carcinogens. Other scholars have examined federal pollution policy more broadly, including experience in regulating common air pollutants and toxic and conventional water pollutants. They have reached similar conclusions. *See, e.g.,* Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and "Fine-Tuning" Regulatory Reforms,* 37 STAN. L. REV. 1267 (1985); McGarity, *supra* note 6.

18. *See infra* text accompanying notes 36-38.

19. Krier & Gillette, *The Un-Easy Case for Technological Optimism,* 84 MICH. L. REV. 405, 406-07 (1985).

of betterness, some principle that might be used to determine which among the imperfect options *is* better. Consider some possibilities. We might select one legislative option over another for reasons of simplicity, because it can be more easily administered, because it has more favorable distributive consequences, because we find it most compatible with other national programs or objectives, or because we think that it best treats individuals as ends and not as means.[20] In other words, legitimate criteria for law are diverse. We might organize the sorts of disagreements people can have over law by organizing the sorts of reasons for valuing law into general categories. For instance, people support laws for consequentialist reasons, for their ability to produce good results. People also support laws for duty-based reasons, because they believe the laws discharge social obligations or enforce private ones, irrespective of whether the resulting external effects are judged good or bad. Laws can also be seen as expressing values, as signifying or embodying some quality or concern. Each of these criterial categories, the consequentialist, the duty-based, and the expressive, deals in contested concepts and values. The supporters and the opponents of federal legislation banning flag-burning, for example, disagree about what social message laws respecting the flag should express. The dispute over "reparations" as a basis for civil rights legislation is largely a dispute over what society's obligations are. When experts on special education argue the desirability of "mainstreaming," they are often debating whether the anticipated effects of a law mandating such mainstreaming are desirable or not.

One reason laws are disputed is that people have disagreements within each category, disagreeing about what consequences ought to be pursued, what duties discharged, or what values expressed. Normally, maybe always, the arguments advanced for and against laws will also span across the categories. Lawmaking involves what Thomas Nagel has termed the unity of action and the fragmentation of value,[21] because single acts of legislation raise a multiplicity of value concerns. Our modern society is closely identified with dissensus over values, which is why Nagel refers to the phenomenon as a fragmentation. When we turn to law, this phenomenon ensures an additional source of disagreement, for it is to be expected that even if we could agree on a menu of legitimate values, we lack consensus on how to reconcile conflicts among them. Many people agree, for instance, that the exclusionary rule vindicates a social ideal that police and courts treat suspects fairly; they also agree that the rule operates to insulate some guilty criminals from successful prosecution. One value cuts in favor of the rule, the other against. One reason the rule is controversial is that we agree neither on the magnitude of these countervailing

20. *See generally* McGarity, *supra* note 6, at 200-33.

21. T. NAGEL, *The Fragmentation of Value*, in MORTAL QUESTIONS 128 (1979).

phenomena nor on how to reconcile the clash so as to reach the proper judgment, all things considered.

Within contemporary society, it seems highly implausible that we might reach agreement in any area of significant social policy on legitimate ends or objectives and on how to resolve any conflicts among those ends or objectives. From our present perspective, the idea that ideological lions might lie down with ideological lambs would seem to qualify as one definition of utopia itself. Even if we achieved that much utopia, however, policymakers might still have to be quasi-utopian actors. We might still face a variety of possible means to accomplish stipulated ends and, hence, the need to make comparative judgments among them. Everyone may agree, for example, that directors of corporations should be prevented from making unduly profitable deals with their corporations because of their fiduciary obligations to shareholders, and yet some might urge that this norm be enforced by prophylactic prohibition of all such deals, while others might support case-by-case challenges to rescind deals thought to be unfavorable to the corporation. In any world in which implementation technologies are imperfect, we will still need some criteria for selecting among imperfect options.

None of this is startling; in fact, policymaking has probably always operated in a context where all this disputing — within the various categories of value, among conflicting values, and about how to put into effect a stipulated agenda or menu of ends — is assumed to exist. "Policymaking" has been defined as the "reconciliation and elaboration of lofty values into operational guidelines for the daily conduct of society's business,"[22] a definition plainly broad enough to encompass all of this.

In the modern administrative state, however, we see a recurring effort to suppress some of these disputes. The crucial move here is to divide policymaking into two distinct parts, the value-laden and the value-free, and subsequently to treat the first as a "political" and the second as a "scientific" activity. As played out in the normal science of "policy analysis" or "public administration," this division of labor seeks to provide policy analysts with a secure professional niche. Theirs will be the task of studying implementation possibilities and problems, and of recommending successful strategies to the political officials who are charged with formulating the agenda of ends or objectives. The goal is to isolate the business of determining "operational guidelines" from that of "reconcil[ing] and elucidat[ing] . . . lofty values."[23]

This strategy proves to be incoherent. Any "science" brought to

22. Diver, *Policymaking Paradigms in Administrative Law*, 95 HARV. L. REV. 393, 393 (1981).

23. *Id.*

policy will come with its own normative baggage, its own set of ends and objectives, which may or may not be compatible with the social objectives determined by the political branch.[24] Science frequently operates, for example, by virtue of simplifying and modeling complex phenomena. This results inevitably in foregrounding certain aspects of those complex phenomena, while backgrounding others. Especially common is the effect that quantification has of "dwarfing soft variables," meaning that certain values that are difficult to quantify, such as dignity values and expressive values, are overshadowed by the more readily quantifiable information, such as economic effects.[25]

Just this line of argument has been vigorously advanced by some opponents of the cost-benefit paradigm, one of Cross' three candidates for implementing a moderate cancer policy.[26] Cross might have used this critique in order to establish a point of superiority for feasibility analysis, but he does not. Doing so would require endorsing a normative order that gives significant weight to the soft variables dwarfed by the machinery of cost-benefit analysis. In resting the case for feasibility analysis so heavily on its effectiveness, but subsequently failing to articulate toward what end that paradigm is the most effective instrument, Cross seems to be trying to stay on the science side of the politics/science division as exclusively as possible, which means trying to discuss implementation issues without reference to the substantive ends, values, or objectives being implemented.[27]

Now it is probably impossible to discuss implementation issues without at least mentioning ends, if only in passing. The book do' contain a few such "mentions," but fleshing them out fails to strengthen the case for feasibility analysis. In the preface, for instance, we are told that "[g]overnment's first task is to prevent environmentally induced cancer, insofar as possible, through such regulatory organizations as the Environmental Protection Agency" (p. xiv). While

24. One of the early pieces, still among the best, developing this theme is Tribe, *Policy Science: Analysis or Ideology?*, 2 PHIL. & PUB. AFF. 66 (1972).

25. A second objection to the politics/science dichotomy is that it ignores the degree to which scientists operating in policy-relevant fields must make assumptions or judgments not themselves supported by scientific consensus or experimentation. Critics of the division argue powerfully that these judgments should not be left on the science side of the divide, and that policy will be vulnerable to illegitimate manipulation if it fails to recognize this. *See, e.g.*, Latin, *Good Science, Bad Regulation, and Toxic Risk Assessment*, 5 YALE J. ON REG. 89 (1988).

26. *E.g.*, Latin, *supra* note 17.

27. Should policy scientists find that choices among implementation devices raise further conflicts among ends or objectives, as they almost universally do, the analyst has an out. She can highlight the dispute, treat it as an unresolved issue, and refer the matter back to the political side of the divide for its resolution. In practice, policy analysts make *sub rosa* value judgments at many different points in their analyses, which is one compelling reason not to permit the complete separation of political accountability from professional expertise. *See, e.g.*, G. BENVENISTE, THE POLITICS OF EXPERTISE (2d ed. 1977). For an excellent analysis of the tendency for science and social values to become intertwined, even when the "hard" sciences are involved, see Latin, *supra* note 25.

this statement might be taken as expressing an end or goal for environmental policy, treating it that way raises more questions than the book answers. First, regulating "insofar as possible" is not defended in the book on anything other than instrumental grounds. Second, were regulation insofar as possible the proper *end* of policy, then feasibility analysis, which requires regulation to the limits of technological feasibility, would seem to be the *most* logical method to achieve that goal, whereas Cross clearly thinks such an approach is *il*logical, "perhaps the most illogical risk management approach."[28] "[C]omplete reliance on feasibility analysis," Cross says, "is logically unsound" (pp. 92-93).

Elsewhere, Cross writes that "[i]f government is to prevent cancer, it must know the causes of cancer" (p. 1), and that "[a]n understanding of the context of environmentally induced cancer will enable the law to better fulfill its preventive and compensatory role" (p. 2). Perhaps the prevention of "potentially preventable cancers" is the goal of policy (p. 2). If so, then the "most effective" regulatory instrument would be the one that prevented the highest number of cancers.

Cancer prevention is a wildly popular and clearly legitimate objective, but it cannot supply the critical purchase necessary to support the claimed superiority of feasibility analysis. If cancer prevention stood alone as our social objective, we could accomplish that most directly by simply shutting down the chemical industry immediately.

Indeed, if cancer prevention is the goal, then what of those "zealous environmentalists" who support the zero-risk paradigm, but whose arguments — while "rhetorically" powerful — ultimately "appear[ ] somewhat ridiculous" (pp. 69, 70, 71), and whom Cross accuses of "incorrect, irresponsible and ultimately self-defeating" exaggerations of the magnitude of the manmade carcinogen problem (p. 36)? Their objective turns out to be the right one, after all. This is not at all what Cross advocates. The reason that it is even possible to reach such a conclusion stems from an ingredient missing from the book's argument. Any regulation short of the zero-risk paradigm depends upon there being some countervailing value, one that conflicts with pure cancer prevention, that merits a role in policy formation. Cross needs such a value to make his case against zero-risk, but the book fails to articulate one clearly. We are told we need moderation, but moderation describes a capacious territory, and any of the three regulatory paradigms can be designed to fit within it. In order to determine which does a better job, we need to know some goal a moderate policy should serve, and hence *why* moderation seems advisable.

In the most general of terms, we know, of course, that the competing value has something to do with the costs of obtaining cancer prevention. Unfortunately, that general thought starts us down the road

28. P. 147. The reasons feasibility analysis is "illogical" are discussed later in this review. *See infra* Part IV.

to yet another conclusion that Cross doesn't want us to draw, for it seems to suggest the use of a balancing approach of some sort — even cost-benefit analysis itself — as an appropriate basis for cancer policy.

Actually, selected passages in the book can make one think that Cross isn't terribly hostile to that conclusion. Cost-benefit analysis has been frequently faulted for requiring data that is, practically speaking, often unavailable and that, when available at all, is subject to manipulation by industry interests. Yet Cross brushes such objections aside, quoting with approval Aaron Wildavsky's aphorism, "better a flawed economics than a bogus politics."[29] Cross acknowledges other criticisms of cost-benefit analysis, such as the complaint that it has ethical shortcomings, especially in its willingness to put a price on human life, yet he concludes that "[c]ost/benefit analysis is neither inherently ethical nor inherently unethical" (p. 84). Rather, cost-benefit analysis is flexible enough to accommodate all sorts of moral and ethical values, should the analyst be instructed to incorporate them.[30] After a review of all the standard objections that are raised against using cost-benefit analysis to decide matters of public health and safety, Cross still concludes that this paradigm is the only approach that "recognizes the full range of implications that may result from government control of carcinogens."[31]

With this as the case "against" cost-benefit analysis, one wonders why it has been rejected. Its major shortcomings seem to be data availability and manipulability. Yet as Professors Ackerman and Stewart have suggested, the former can be addressed by adopting some simplifying assumptions and best guesses, pressing all the time for better information.[32] As for the latter, it is not obvious that cost-benefit analysis suffers from this deficiency to any greater degree than the other paradigms.[33]

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29. P. 85 (citing A. WILDAVSKY, SPEAKING TRUTH TO POWER: THE ART AND CRAFT OF POLICYMAKING 156 (1979)).

30. *Cf.* Leonard & Zeckhauser, *Cost-Benefit Analysis Applied to Risks: Its Philosophy and Legitimacy,* in VALUES AT RISK 31, 42 (D. MacLean ed. 1986): "[Not] every important social value can be represented effectively within the confines of cost-benefit analysis. Some social values will never fit in a cost-benefit framework and will have to be treated as 'additional considerations' in coming to a final decision. Some . . . may be binding constraints."

31. P. 89. Elsewhere, Cross indicates that he finds the approach of welfare economics to environmental problems the most cogent in theory. Cross, *Natural Resource Damage Valuation,* 42 VAND. L. REV. 269, 283-84 (1989).

32. Ackerman & Stewart, *Reforming Environmental Law,* 37 STAN. L. REV. 1333, 1336-40 (1985).

33. Technology-based standards generally are highly dependent upon industry supplied information on technological capability, installation and operating costs. This provides industry ample opportunity to manipulate or obstruct. A study of EPA's implementation of the technology-based effluent standards under the Clean Water Act concluded that "[i]ndustry was capable of manipulating the rulemaking process by withholding data on costly, but effective, abatement technologies and supplying excessive and confusing data." W. MAGAT, A. KRUPNICK & W. HARRINGTON, RULES IN THE MAKING 36 (1986).

The problems in connecting the book's primary policy recommendation with a persuasive argument could be multiplied by reviewing the case against its other competitor, the significant risk paradigm, but I will leave that to the reader. Inconclusiveness is foreordained, I think, by virtue of the book's silence on the subject of policy ends or goals. In these circumstances, all that can eventually be said in support of feasibility analysis is that which Cross does say, articulately and well: feasibility analysis has worked, the other two have not. And, you might ask, why isn't that sufficiently persuasive? After all, many, many people have pointed out the shortcomings of various theoretical approaches to health and safety regulation, including feasibility analysis. At the end of the day, however, theory doesn't prevent cancers; effective regulation does.[34]

The choice thus presented, then, is not among plausible, diverse, operational guidelines. It is between something and nothing. Here we have the bedrock explanation for Cross' apparent conviction that he can propose feasibility analysis without an elucidation of the full panoply of conflicting values that surround cancer policy. Whatever one's particular constellation of values, no one could object to trading in our current sluggish performance for more effective, moderate performance (except the extremists, and maybe only half of them).[35]

Given the premises, this conclusion does indeed follow. Alas, the historical account upon which the premises rest can support more than one meaning. Even conceding that history demonstrates that feasibility analysis has worked, at the most it also demonstrates only that the others have worked less well so far, not that they cannot work. Indeed, supporters of either significant risk or cost-benefit analysis can legitimately draw some very different historical lessons from those emphasized by Cross.

Much of our current technology-based regulation was drafted before we had developed much sophistication in devising more economic-oriented strategies, so that the selection of these approaches instead of balancing ones, including those using cost-benefit analysis, occurred in a historical context that may have unduly discounted such strategies.[36] Furthermore, both balancing statutes and significant-risk

34. Supplying just this kind of effectiveness defense of technology-based standards is the primary enterprise of Professor Latin's extensive study. Latin, *supra* note 17; *see also* McGarity, *supra* note 6.

35. I suppose even "zealous environmentalists" would endorse feasibility analysis if they truly thought the only other choice was doing nothing. That would leave the "industry representatives" standing alone.

36. This claim is amplified in Schroeder, *The Evolution of Federal Toxic Substances Policy,* in AMERICAN ENVIRONMENTAL POLITICS SINCE WORLD WAR II (The Woodrow Wilson Center, forthcoming 1990). Once enacted, any form of legislation creates its own constituency for continuation, as interested parties develop vested interests in the existing structure. *See generally* Stewart, *The Discontents of Legalism: Interest Group Relations in Administrative Regulation,* 1985 WIS. L. REV. 655.

statutes have been the victims of unrealistic demands for precision and data quality, which have made them vulnerable both to public criticism and judicial review. Cross realizes this point, yet fails to appreciate that one way of addressing it would be to lower expectations of rigor and precision, so that agencies might take effective action under these paradigms.[37] Finally, notwithstanding their slow start, balancing approaches especially are gaining an experience base indicating that some of *their* claims of superiority over feasibility approaches are justified. Both implemented approaches and studies of alternatives to existing regulation suggest, for example, that economic approaches to regulation are much more cost-effective than technology-based approaches that attain the same overall pollution reductions.[38] So history is a treacherous ally of feasibility analysis. A plausible argument can be made that, were society willing to accept approximations for currently hard-to-quantify data, and were courts more willing to sustain regulations based on fairly crude balancing formulas, a regulatory regime built around the balancing paradigm would prove as workable as a feasibility-based approach.

IV

Feasibility analysis cannot be shown to be superior to its competitors on implementation grounds alone, because significant-risk and cost-benefit analysis could both be made to work, in the loose sense that each could be employed in a "moderate" program of risk reduction that would be "more effective" than our current system. On Cross' account, this leaves the case for feasibility analysis radically diminished, for while each of its competitors has its own advantages, independent of implementation concerns, the only advantage offered for feasibility analysis is this one. Otherwise, Cross considers it logically unsound.[39]

Giving up on feasibility analysis would nevertheless be decidedly premature. After all, it does indeed seem to be gaining a working hegemony in the world of practical administration. Several programs that began operations under another paradigm have been or are being shifted over to a feasibility approach, while those that started under feasibility analysis have shown little tendency to migrate elsewhere.[40] On the other hand, whatever their intellectual advantages, significant-

37. Thus, Cross' proposal that the federal courts soften the intensity of their review of agency action under cancer control statutes would seem likely to improve the effectiveness of *all* the moderate paradigms, not just feasibility analysis. *See* pp. 152-55.

38. Major studies are summarized in Ackerman & Stewart, *supra* note 32, at 1334-40.

39. Pp. 92-93, 147. Cross argues that significant-risk is supported ethically on contractarian grounds and that cost-benefit analysis is the only paradigm that permits consideration of all relevant social concerns raised by cancer exposure. *See* pp. 75-76, 89.

40. The two most prominent programs that have or are being shifted are the water toxics program and the air toxics program.

risk and cost-benefit approaches still look hamstrung. Significant-risk analysis remains hobbled by the absence of a working consensus on what risks are significant, and the candid use of cost-benefit analyses founders on the question of placing monetary value on a human life. As Cross has well recounted, under currently prevailing conditions, feasibility analysis does seem to work, whereas significant-risk and cost-benefit analyses do not. Even if this evidence does not support claims of inherent implementation superiority, it does trace a tendency in regulatory development that itself needs some explaining.

We can make some headway toward such an explanation by reversing the relationship Cross sees between the implementation advantages of feasibility analysis and claims that it is superior. Instead of concluding that feasibility analysis is superior because it can be implemented more effectively than the other paradigms, we might conclude that feasibility analysis has been implemented more effectively because it is superior, not for technical, implementation reasons, but on normative grounds. It just might be that because feasibility analysis better expresses the underlying constellation of values people wish to vindicate in their environmental policy, implementation has met less resistance: we have been more willing to tolerate simplifying assumptions, and we are more united in the conviction that regulations based on this approach ought to be carried through. In contrast, because significant-risk and cost-benefit analyses express those underlying values less well, they are viewed suspiciously, there is more resistance to implementation, and there is less willingness to engage in the simplifying assumptions necessary to make any quasi-utopian regulatory approach work.[41]

This point can be made in terms of the "logic" of a regulatory paradigm. The logic of a set of operational guidelines, or a regulatory paradigm, turns on a comparison of its internal structure and order of relationships among decision criteria to the rationale or justification for creating those guidelines. If this internal structure mirrors or resembles the structure of the argument that justifies the guidelines, we can say that those guidelines exhibit a transparent logic, one that illuminates or reveals their justification. For instance, welfare economics justifies regulation by arguing that society should promote courses of action maximizing human preferences, as exhibited by the willingness to pay of individuals affected by the action. Cost-benefit analysis,

41. Occasionally, people attempt to study the motives of advocates for different positions in environmental disputes. Results seem to suggest that strident disagreement on so-called implementation issues frequently indicates that deeper, "philosophical" differences are providing much of the animus for the dispute. *See, e.g.*, R. LIROFF, REFORMING AIR POLLUTION REGULATION: THE TOIL AND TROUBLE OF EPA'S BUBBLE 9-10 (1986) (study of disagreements over the implementation of emissions trading policy "found that disagreements over political and philosophical concerns were more vigorous than those over implementation issues and that conflicts over implementation issues were most intense when they most reflected underlying philosophical concerns").

with its consideration of costs and benefits and its decision rule of selecting the course of action that maximizes the net of benefits over costs, tracks the structure of this normative justification. Thus, if one begins with a welfare economics justification for public policy, cost-benefit analysis is a "logical" regulatory structure to employ for its implementation.

Not all regulatory structures possess such a transparent logic. Consider, for example, the much-maligned Delaney clause for color additives, which requires the Food and Drug Administration to ban color additives for food if they have been shown to induce cancer in laboratory animals.[42] Although the clause has been criticized as absolutist, thereby prohibiting the FDA from making cost-benefit comparisons in individual regulatory decisions, it just *might* have a cost-benefit justification. Suppose Congress determined that having the FDA perform individualized cost-benefit analyses for each color additive would not improve the quality of the program's decisionmaking sufficiently to offset the time and expense involved in doing so.[43] Congress might then conclude that the cost-beneficial regulatory option was to create an operational guideline that did not permit the case-by-case weighing of costs and benefits. If this were in fact the justification for the Delaney clause, we would have to conclude that this regulatory program lacked a transparent logic. The internal structure of the regulatory program, those criteria and relationships relevant to reaching a regulatory decision, would not mirror the structure of this hypothetical welfare economics justification for the program.[44]

With this definition at hand, we can express a hypothesis about the superiority of feasibility analysis: contrary to Cross' view, feasibility analysis may be superior because it is *more* transparently logical than its competitors, not less, in that its internal structure more closely resembles the underlying values, and their relationships to one another, that make up one persuasive justification for environmental regulation. In the remainder of this Part, I shall explore this possibility, once again limited to a comparison of feasibility analysis with the single alternative of cost-benefit analysis.

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42. 21 U.S.C. § 376 (1988).

43. Considerations that might support such a decision include (a) a belief that lack of data will make individualized cost-benefit analyses inaccurate; (b) a belief that most color additives, which serve cosmetic functions only, would fail a cost-benefit test; (c) a belief that the gains to be had from efforts to discriminate among different color additives through individualized cost-benefit inquiry would be outweighed by the costs of acquiring the necessary information to perform those studies, even if the information eventually gathered was reliable.

44. As a historical explanation of Congress' motivations, the account in the text is counterfactual. For a detailed exploration of Congress' probable motives in enacting the several Delaney clauses, see Merrill, *FDA's Implementation of the Delaney Clause: Repudiation of Congressional Choice or Reasoned Adaptation to Scientific Progress?*, 5 YALE J. ON REG. 1 (1988). However, an argument similar to that in the text has been advanced as a justification for the Delaney clause. Doniger, *Federal Regulation of Vinyl Chloride: A Short Course in the Law and Policy of Toxic Substances Control*, 7 ECOLOGY L.Q. 497, 656-57 (1978).

A convenient way to begin exploring the logic of feasibility analysis is by reviewing what environmentalists find deficient in cost-benefit analysis, and in the normative justifications offered by welfare economics for it. Economic analysis approaches the value conflict that surrounds cancer regulatory policy as it approaches all such conflicts, by assimilating it to the general problem of allocating scarce resources. In principle, all such conflicts should be resolved by producing that mix of goods that maximizes the satisfaction of individual preferences for them, as measured by individual willingness to pay. As we have just seen, cost-benefit analysis is a logical regulatory paradigm for carrying out that task.

Thus, when Cross refers to feasibility analysis as illogical, he seems implicitly to be assuming that the underlying justificatory argument for regulation is that given by welfare economics. Unlike cost-benefit analysis, the structure of feasibility analysis provides no recognition of human health benefits, and hence has no way of conceiving of a function that smoothly "trades off" such benefits for costs. Because it is illogical in this way, feasibility analysis can produce perverse results when viewed from the economics perspective. It can reduce overall welfare both by overregulating (by imposing costly technologies on a facility that is located in a sparsely inhabited area and therefore is causing few harms) and by underregulating (by permitting the continued operation of a facility located in a very densely populated area, where cost-benefit analysis would recommend closing the facility entirely).

This much is well understood. Equally well understood is that many individuals (whether "zealous environmentalists" or not) who contemplate the issues raised by difficult environmental choices come to conclude that cost-benefit analysis seriously misrepresents the values at stake. To be sure, advocates of environmental protection disagree over the nature of what is being misrepresented. Mark Sagoff, for example, contends that environmental values reflect "principles," or components of reasoned ethical systems, as contrasted to consumer "preferences," and that it is the demand for judgment under a regime of reasons instead of according to a regime of willingness-to-pay that counsels rejecting cost-benefit analysis.[45] Daniel Farber, on the other hand, while critical of Sagoff's sharp distinction between principle and preference, also argues against cost-benefit analysis. Environmental values have worth independent of their ability to advance human welfare, but advancing reasoned arguments is not a necessary prelude to valuing, he says, because "to value something is simply to care about

45. *See* M. SAGOFF, THE ECONOMY OF THE EARTH 93, 102 (1988). For criticisms of the distinction between principles and preferences, see Rose, *Environmental Faust Succumbs to Temptations of Economic Mephistopheles, or, Values by Any Other Name Is Preference* (Book Review), 87 MICH. L. REV. 1631 (1989); and Farber, *Environmentalism, Economics, and the Public Interest,* 41 STAN. L. REV. 1021 (1989).

it."[46] Farber explains this aspect of valuing the environment:

> [T]he reason most people value the environment is emotional, not because of some elaborate syllogism.
>
> . . . The act of valuing something is somewhat like caring about a person, and demanding that a person justify his love for another seems decidedly strange. Values are simply not things that normally require rational justifications.[47]

And so for environmental values.[48]

While Sagoff and Farber disagree on a good deal, they share in common the claim that cost-benefit analysis should be viewed with suspicion because such analysis misrepresents the environmental values they want to protect. This view does not contest the instrumental adequacy of cost-benefit analysis to justify stringent regulation. Cost-benefit analysis has, in fact, been a friend of environmental objectives on many occasions, often enabling environmentalists to make a case for more stringent or protective measures. Nevertheless, and despite the fact that the cost-benefit paradigm is tremendously flexible, capable of reflecting whatever values individuals may happen to have, many environmentalists view cost-benefit analysis with suspicion because it performs this "reflecting" in a very specific way. Cost-benefit analysis is exclusively sensitive to the "commodity value" of the output of regulatory programs,[49] and environmentalists believe this exclusivity results in a distorted reflection of many environmental values.

Commodification permits the representation of any value in terms of a single metric — consumer willingness to pay. This characteristic is extremely important in explaining cost-benefit's flexibility. It is, however, just the characteristic that environmentalists believe is deficient. Regardless of how their claim is described — whether as the claim that individuals (and, some insist, animals) possess inherent

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46. Farber, *From Plastic Trees to Arrow's Theorem*, 1986 U. ILL. L. REV. 337, 345.

47. *Id.* at 345-47.

48. Carol Rose has also been critical of Sagoff's preferences/principles distinction, and she provides yet another characterization of the deficiencies of cost-benefit analysis. For her, the principal problem is that the economic approach may reinforce an impoverished rhetoric, one that condones selfish behavior and fosters the belief that values are private and not subject to discussion. This fights against the ambition of environmentally concerned citizens (1) to engage others in cooperative and to a certain extent altruistic behavior and (2) to bring value differences out into the public arena, where they can be discussed and debated. *See* Rose, *supra* note 45.

49. *See* Anderson, *Values, Risks, and Market Norms*, 17 PHIL. & PUB. AFF. 54, 56 (1988): "[A] commodity value [is] a good that is appropriately produced and distributed in accordance with . . . four norms." These norms describe and define market exchanges:

> First, in determining the production and distribution of goods, the market does not recognize any distinction between wants and principles or needs. Second, the parties to a market exchange have no precontractual obligations to provide the goods being exchanged. Third, the power of an individual to promote her interests in the market is a function of her financial resources and relative competitive position. Finally, the market provides an avenue for the expression of discontent through exit, not voice.

Id. at 56.

value,[50] or as the claim that the regime of reasons is normatively prior to valuing goods in the market, and hence can legitimately establish constraints on what can be traded there,[51] or as the claim that individuals "simply care" about things in ways other than by placing a commodity value on them — environmentalists assert the policy relevance of other ways of valuing. Furthermore, and this is the key idea here, these other ways of valuing are incommensurable with, and hence not reducible to, commodity valuation.[52] By virtue of its structural denial of any smooth comparability between costs and benefits, then, feasibility analysis resonates with an important feature of environmental thought in a way that cost-benefit analysis cannot.

To see a second important dimension to the topic of regulatory logic, we must supplement Cross' call to be realistic with yet another dose of realism, this time of the Legal Realist variety. The Realists' persistent attacks on formal structures in law and policy drove home the point that what one takes to be the "natural" or "normal" baseline, from which deviation requires justification, has a profound influence on the shape of positive law.[53] In constitutional law, for example, *Lochner*-era jurisprudence is partially explained by the Supreme Court's adopting a "common law" baseline, in which human relations under the operations of common law doctrines of property, contract, and tort required no defense, but government intervention to alter such relations did. The post-*Lochner* era, in contrast, at least partially

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50. *E.g.*, T. REGAN, THE CASE FOR ANIMAL RIGHTS 235 (1983).

51. Richard Andrews has described this approach to public policy as the "philosophy of normative constraints." He writes:

> In this conceptual framework, government is not simply a corrective instrument at the margins of economic markets but [a] . . . central arena in which the members of society choose and legitimize . . . their collective values. The principal purposes of legislative action are to weigh and affirm social values and to define and enforce the rights and duties of members of the society, through representative democracy. The purpose of administrative action is to put into effect these affirmations by the legislature, not to rebalance them by the criteria of economic theory.

Andrews, *Cost-Benefit Analysis as Regulatory Reform*, in COST BENEFIT ANALYSIS AND ENVIRONMENTAL REGULATIONS: POLITICS, ETHICS, AND METHODS 107, 112 (D. Swartzman, R. Liroff & K. Croke eds. 1982). *See generally* Sunstein, *Legal Interference with Private Preferences*, 53 U. CHI. L. REV. 1129 (1986) (describing view of government in which laws can be based on society's "preferences for preferences," meaning, among other things, that law can legitimately constrain, rather than simply enforce market outcomes).

52. *E.g.*, Lukes, *Making Sense of Moral Conflict*, in LIBERALISM AND THE MORAL LIFE 127 (N. Rosenblum ed. 1989). Lukes writes:

> [We would do well to] "suspend the monistic assumption underlying so much of moral theory" and "acknowledge that not everything is good or right to the extent that it is commensurable with respect to any single standard."
>
> The key idea, then, is that there is no single currency or scale on which conflicting [incommensurable] values can be measured, and that where a conflict occurs no rationally compelling appeal can be made to some value that will resolve it.

Id. at 134-35 (quoting C. LARMORE, PATTERNS OF MORAL COMPLEXITY 10 (1987)).

53. *See, e.g.*, Singer, *Legal Realism Now*, 76 CALIF. L. REV. 465 (1988); Sunstein, *Lochner's Legacy*, 87 COLUM. L. REV. 873 (1987). The more contentious lesson, of course, was that, although reasoning from baselines seems inescapable, there are no neutral or natural ones. *See id.* at 903-10.

repudiated that baseline, permitting much more government intervention into, for example, labor-management relations.[54]

Assumptions about baselines can often be determinative of government decisions, whatever regulatory paradigm, including cost-benefit, one chooses. Consider a choice between a stringent environmental measure and the status quo. If one starts with the baseline assumption that the victims of the action have a right to be free from harm or environmental degradation, as environmentalists typically do, stringent environmental protection will appear to be the "normal" situation, and *inaction,* preserving the status quo, will require justification. A cost-benefit analysis of the decision would value the "benefits" of a decision to pollute by the polluters' willingness to pay to degrade the environment, and would value "costs" by the willingness of victims to accept payment to give up their baseline position. Using these guidelines, cost-benefit analysis may very well support the stringent environmental measure.[55] On the other hand, if the baseline were switched, so that the status quo of costless pollution is taken as the baseline, then the victims of pollution will be viewed as the beneficiaries of stringent controls and the polluters as those who must bear the costs of giving up their baseline position. The value of benefits will now be calculated according to victims' willingness to pay. If this is substantially less than their willingness to accept payment, cost-benefit analysis may now favor the status quo.[56] In other words, cost-benefit analysis will end up favoring the persons whose interests received preference initially by virtue of the location of the baseline, so that where the analysis starts will determine where it ends.[57]

One of the principal objectives of the environmental movement has been to reconfigure the baseline in many matters of environmental policy and health and safety protection. Early on, environmentalists noted that common law rules are inherently biased in favor of despoil-

54. *See* Sunstein, *supra* note 53, at 903-10. The contrast between *Lochner* and post-*Lochner* jurisprudence is also one concerning the degree of justification the government must supply for its interventions.

55. *See e.g.,* M. SAGOFF, *supra* note 45, at 74-88.

56. Imagine John Muir being asked how much he would accept as payment for converting Yosemite National Park into an amusement park. Now imagine how much he would be willing to pay to prevent that from occurring. While the latter amount would probably be substantial in Muir's case, it would also quite likely be far less than the first sum — if he were willing to price the matter at all. Willingness to pay, after all, is always constrained by the size of one's bank account while willingness to forgo payment is potentially limitless.

57. This point has often been expressed by noting that cost-benefit analysis is indeterminate, and that the results of the analysis often depend upon whether individual preferences are calculated by reference to their asking prices (willingness to accept payment) or their offering prices (willingness to pay) for the goods or services in question. *See, e.g.,* Farber, *Plastic Trees, supra* note 46, at 352-54; Kelman, *Consumption Theory, Production Theory, and Ideology in the Coase Theorem,* 52 S. CAL. L. REV. 669, 678-95 (1979); Kennedy, *Cost Benefit Analysis of Entitlement Problems: A Critique,* 33 STAN. L. REV. 387, 401-07 (1981).

ers of the environment.[58] Under common law norms, such individuals can generally act without court approval, whereas persons damaged or potentially damaged by their actions have the burden of initiating expensive legal action to stop them. Even worse, where legally sufficient proof is not readily available, these lawsuits will be unsuccessful.[59] An important component of the environmental agenda of the 1960s and 1970s urged adoption of a new baseline, which Judge McGowan once summarized as follows: "Hitherto, the right of the polluter was pre-eminent, unless the damage caused by pollution could be proven. Henceforth, the right of the public to a clean environment would be pre-eminent, unless pollution treatment was impractical or unachievable."[60]

The preceding suffices for a preliminary sketch of the logic of feasibility analysis as applied to the problem of manmade carcinogens. Many Americans believe that public policy should be predicated upon the "preeminen[ce]" of a deep-seated respect for human life, a respect that Cross notes plays a prominent role in debates about cancer risk.[61] Giving preeminence to respect for life does not mean that protecting life is lexically prior to all other values — does not mean, in other words, that public policy must always be willing to spend additional resources to reduce risk, no matter what the other demands on resources may be. Precisely what it does mean would require much greater and detailed exploration of candidate value systems than we have so far conducted, but two characteristics of what most environmentalists take it to mean have already been suggested. First, protecting human life (and, more generally, the living environment) ought to play a more prominent role in establishing our social baseline, so that measures that deny complete protection are the measures that require explanation. Second, respect for human life is a value incommensurable with the commodity value of a life.

Adopting these two ideas has a profound effect on an assessment of the logic of regulatory paradigms. Typically, cost-benefit analysis employs commodity valuation exclusively, and operates under an implicit baseline of the status quo. As a consequence of this choice of the baseline, the question, "Why are you regulating this private activity at all?" appears to be the "natural" one to ask.[62] Moves away from the

58. Krier, *Environmental Litigation and the Burden of Proof,* in LAW AND THE ENVIRONMENT 105, 107 (M. Baldwin & J. Page eds. 1970).

59. As was the case with efforts to address carcinogens through traditional common law actions. *See supra* sources cited in note 4.

60. Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1043 (D.C. Cir. 1978).

61. *See, e.g.,* p. 75.

62. Despite the inroads of environmentalism over the past 20 years, this baseline may well still be the dominant one in policy circles. An example of it at work can be found in the excellent study of air pollution regulation by Bruce Ackerman and William Hassler. They urged that Congress require the EPA to justify its regulations according to the environmental benefits that would be achieved by them. "[A]t least," they argued, EPA would be "openly arguing about the

status quo baseline require justification. Commodity valuation then necessitates that such justification come from a determination that a regulation's costs are outweighed by the regulation's benefits, as calculated under the assumption that victims will be hypothetically paying polluters to abate.

All of this changes dramatically if the baseline and approach to valuation change. If the baseline against which policies must be justified is taken to be freedom from the harm of pollution, then the salient question changes from "Why are you regulating?" to "Why are you allowing risky activity?" The effect of rejecting commodity valuation as the exclusive instrument for responding to that question then precludes a simple cost-benefit response. Feasibility analysis implicitly suggests another answer: as a first approximation, we might allow risky behavior when we are concerned that the effects of still tighter controls would cause substantial social dislocation. That answer is by no means free from controversy, but it is, I believe, an answer that many would find at least initially worthy of consideration. Elsewhere I have argued that respect for life must under some circumstances give way to competing values, including the value we place on human beings being accorded a meaningful opportunity to formulate and pursue life plans.[63] The value we place on human flourishing, as contrasted to the value of human existence, strikes me as the proper place to begin to flesh out a justification for less-than-absolute protection against risk. Substantial social dislocation of the kind that would ensue if risk-creators are regulated beyond the point of technological and economic feasibility can upset living patterns, shattering the hopes, ambitions, or plans of affected individuals. Provided the residual risk that remains after all feasible controls are in place is modest enough, an accommodation to competing values at the point of feasibility may seem desirable. In fact, I take the growing deployment of feasibility analysis as some evidence that this is so.

* * *

The foregoing suggests that regulatory paradigms compete with one another at the normative as well as at the implementation levels. The feasibility approach is not an illogical approach to regulation, for it resonates with an underlying justificatory structure that treats human life as a preeminent value and that further postulates that the values implicated by many regulatory conflicts are incommensurable. If, as I believe, a significant segment of the American population gen-

right question[]: how serious is the risk to human health?" B. ACKERMAN & W. HASSLER, CLEAN COAL/DIRTY AIR 103 (1981). The idea that regulation demands justification by invoking health risk reductions assumes the status quo baseline. For feasibility analysis to appear logically sound, it must appeal to a different baseline entirely.

63. Schroeder, *Rights Against Risks,* 86 COLUM. L. REV. 495 (1986).

erally subscribes to such a justificatory structure, pointing out the logic of feasibility analysis helps explain its implementation successes.

An argument of this type does not, however, supply sufficient reasons to prefer feasibility analysis. On the one hand, such an argument has indicated differences between the logic of this approach and the logic underlying cost-benefit analysis, but it has not shown the superiority of the one over the other. Indeed, we ought to attribute some of the continuing confusion over which regulatory paradigm to employ to the unresolved contest among the quite different logics each presents for public consideration. On the other hand, selection of a ruling logic would still not render self-evident the selection of regulatory paradigms. Implementation considerations, including the considerations that receive careful attention in Professor Cross' book, will continue to influence the shape that operational guidelines take.

While an understanding of feasibility analysis' logic is therefore insufficient to end the struggle among competing paradigms, it remains a necessary prelude to any progress in this area. If feasibility analysis is going to be the answer, we ought to understand that the questions being answered include normative ones as well as technical ones.