

## Justifying Risk

**O**UR ATTITUDES TOWARD RISK VARY according to what has happened to us, what we expect, what we feel, what we know, and what we care about. We ignore some risks, overestimate others. Our perceptions are selective and change as social life changes.

Nothing illuminates this last point so well as the evolution of life insurance. In the sixteenth and seventeenth centuries, it was conceived primarily as a wager. Short-term bets were taken out on the lives of a third person, usually a prominent figure like the pope. The custom seems to have originated in fifteenth-century Spain and spread to Italy, Holland, France, and England. The 1570 Code of the Low Countries lumps life insurance together with other “abuses, frauds, and crimes,” and by the end of the seventeenth century it was illegal everywhere in Europe except Naples and London. Throughout the early modern period, life insurance was “betting on life,” not planning for it.

Changes in the concept had to await the arrival of a new group, those with newly acquired wealth, who had something to lose if their fortunes reversed. An early prospectus of the Equitable Society for the Assurance of Lives, founded in London in 1762, extols the benefits of life insurance for the head of the household by painting a vivid portrait of the “indigent and deplorable situation” that could be brought about by his unexpected early death. Playing upon the anxieties of family members, it makes much of the “catastrophe” that would occur were they suddenly “catapulted out of the middle ranks of society,” which by dint of their own “industry and thrift” they had struggled so hard to attain.<sup>1</sup>

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The transformation in the conception of life insurance from betting on life to security against its loss illustrates dramatically that our attitudes toward risk are bound up with what else we believe and value. They make sense only against a certain social background.

#### RISK AND CONSENT

We live in a culture that prizes autonomy. Against that background, our responses to risk acquire their meaning. We respond differently to risks that we choose for ourselves and over which we believe we have some degree of control than we do to risks that we do not choose or believe we control. In technical discussions, risks are negatives, and in calculations of costs and benefits, risks are usually considered costs. To a mountaineer, however, the risk of a climb or a particular route up a rock face, ranked in terms of its DP, or “death potential,” is part of what makes that climb a challenge, even what makes it worthwhile.

The mountaineer’s attitude toward risks is tied, surely, to the degree of control he believes he has over the risks he must bear. Our judgment, too, about when it is permissible to expose a person to risk or injury is tied to notions of individual responsibility and human agency. The source of an injury is often as important to us as its extent. It makes a difference to us whether a harm was due to natural causes or brought about by the action of another person. If it was caused by another person, we usually want to know if he knew what he was doing, and if he did, whether he acted deliberately. These preoccupations are reflected in our legal codes and moral practices. From a moral point of view, the key question to ask is not “What should we do about risk?” but “Which risks do we want to have on our conscience?”<sup>2</sup>

In the following pages I shall focus on risks imposed on us by others, on what might be called risk impositions. Under what conditions are risk impositions justified? Having devoted almost exclusive attention to the conditions under which it may or may not be permissible to cause another person harm, philosophers have paid surprisingly little attention to the permissibility of risk impositions. If, as we seem to believe, it is wrong to cause another person *harm* without that person’s consent, is it wrong to impose a *risk* of harm without consent?<sup>3</sup>

In light of our commitment to autonomy, it is not unreasonable to think that consent plays a role in the legitimation of risky activity. Its role is important in our political process, which relies on the participation of the governed for legitimacy, and in the marketplace, where the ideal transaction is represented as one of *voluntary* exchange. Consent is also thought to be necessary in cases of medical experimentation. Detailed procedures have been developed for the use of consent forms and for obtaining a patient's "explicit, informed consent."

Given that our intuitions are fairly well grounded about the conditions under which we think it permissible to expose patients to the risks of experimental drugs or surgery, it is tempting to take such cases as models for the justification of risky activity in general. This, in turn, suggests a minimal first principle:

Imposing risks on people is justified if and only if it is reasonable to assume that they have consented to those risks.<sup>4</sup>

#### PROBLEMS OF CONSENT

But as workable as such a principle appears to be in the context of doctor and patient, can it be extended to less clearly circumscribed risk impositions: exposure to pesticide drift, the venting of radioactivity from a nuclear power plant, carbon monoxide fumes from congested traffic, acid rain from coal-burning power plants located many miles away, or chemicals entering the water supply from abandoned toxic waste sites? In nearly all of these cases the risks to which people are exposed are not distributed singly from one individual to another, but spread in small increments over a very large population or as the result of the actions of a great many individuals, each of whose actions, taken alone, causes little harm but, in combination, poses a very grave threat indeed. Distributing consent forms to all those who might be at risk is surely an insuperable task, to say nothing of the difficulties of measuring the small magnitudes of risk to each person affected. To complicate matters further, many risks have multiple sources and interrelate, so that it is difficult, if not impossible, to figure out who is doing what to whom, let alone draw up contracts among the relevant parties.

Even if the practical difficulties of obtaining people's consent could be overcome, it is widely reported that people are notoriously poor

judges of risk. People's perceptions frequently fail to match up with the actual dangers risks pose. Few people have a "feel" for what a chance of dying, say a chance of one in a million, really means. Research by psychologists Amos Tversky and Daniel Kahneman has shown that we are regularly led astray in our assessments of probabilities by rules of thumb. Faced with a judgment that requires even a minimal familiarity with statistics, we frequently avoid the statistical information and rely instead on a description which feels less strange.<sup>5</sup> We tend to overemphasize low probabilities and underestimate those that are high. We have to struggle to resist the gambler's fallacy: the belief that after a series of losses the odds must favor a win. We are also poor judges of outcomes. We appear to be more concerned about avoiding losses than receiving equivalent gains, and this asymmetry can be exploited in the way choices are presented. Retailers, for example, know enough about our susceptibility to the way options are framed to represent a surcharge for credit card customers as a discount to those who are willing to pay cash.<sup>6</sup>

The influence of framing on judgments about risk is systematic and pervasive. Health care professionals are no less susceptible to the effects of framing than their patients, who have less experience and lack expertise, as Tversky and Kahneman report. They put the following hypothetical case to a group of physicians:

Imagine that you have operable lung cancer and must choose between two treatments: surgery and radiation therapy. Of 100 people having surgery, 10 die during the operation, 32 are dead after one year, and 66 after five years. Of 100 people having radiation therapy, none die during treatment, 23 are dead after one year, and 78 after five years. Which treatment do you prefer?<sup>7</sup>

Given these options, 50 percent of the physicians said they preferred radiation treatment. However, when the same options were presented in terms of survival rates rather than mortality rates, 84 percent said they would prefer surgery.

It is generally believed that consistency in judgments is a minimal condition of rationality. Since our judgments about risk are apparently inconsistent, it is hard not to draw the conclusion that our attitudes towards risk are irrational. These findings have disturbing implications for public policy, especially in a society which relies on

a democratic process. If we are irrational in our judgments about risk, the policies we enact will reflect a similar bias. Given our untrustworthy attitudes, a consent-based approach to legitimating risk-imposing activities can only lead to irrational public policies.

#### COST-BENEFIT ANALYSIS AS A SUBSTITUTE FOR CONSENT

But if we cannot rely on a consent-based approach because it is either unworkable or not to be trusted, how are we to decide which risks to accept?

Some believe that we should rely on cost-benefit analysis to tell us what to do in our public policies involving risks. But cost-benefit analysis is regarded with some suspicion by the general public. No matter how efficient such analytic methods may be, they are believed to require the technical expertise of well-trained professionals for their operation. Therefore, policies that emerge from their application may seem less legitimate than policies that evolve, however clumsily, from a more participatory political process. Indeed, cost-benefit analysis appears to be as far removed from a consent-based approach as we could find.

However, a powerful case in favor of cost-benefit analysis, put forward recently by policy analysts Herman Leonard and Richard Zeckhauser, suggests that we may have less to fear from such a method than we imagine.<sup>8</sup> They admit the moral appeal of consent-based solutions and go on to argue that—contrary to popular opinion—cost-benefit analysis can be grounded in a form of consent after all. Assumptions about its narrowly technocratic character are misplaced.

Their argument, in brief, runs as follows. Cost-benefit analysis incorporates into its calculus the criterion of economic efficiency as well as an assumption of rationality. Since people want to act rationally and prefer efficiency to inefficiency, they will consent to public policies concerning risks to health and safety that are based on cost-benefit analysis, because the outcomes generated by the analysis are the same as the outcomes that they would choose if they could go through the process themselves.<sup>9</sup> The method measures and compares all relevant factors, incorporating all our values and assigning them weights that we would give to them were we making the decisions ourselves, or more exactly, were we making the decisions

on our rationally best behavior. In this sense, risk cost-benefit analysis is our most reasonable self writ large. It is not an impersonal, narrowly technocratic method for calculating outcomes. It simply specifies choices that we—at our rationally best—would choose. It fills the vacuum created by the unavailability of market solutions and the impracticality of obtaining the explicit, informed consent of all parties to a risk decision. And it fills this vacuum in an ethically appropriate way, according to Leonard and Zeckhauser, since the ethical underpinnings for the defense of cost-benefit analysis ultimately rest, if not on actual consent, on hypothetical consent. What are we to make of this?

#### *Commensurability of Risks*

The strength of cost-benefit analysis is its capacity to order and rank a variety of options. Hence, it must be based on a measure that is sufficiently abstract and general for the costs and benefits of various alternatives to be lumped together and added up. However, the homogenization that takes place often results in the glossing over of differences and the production of outcomes that offend common sense.

Of course common sense itself is not always a reliable guide. But the measure adopted to represent all factors on a single scale must yield comparisons that are in some way recognizable and not so counterintuitive as to appear arbitrary. As Leonard and Zeckhauser themselves make clear, benefits and costs must be “appropriately” measured. Part of that appropriateness is the intuitive appeal of the comparisons, in their connecting up, however dimly, with common sense. For a comparison to yield the right intuitive “feel,” the measure we choose will have to take some of the particularities of the cases into account. Although we may be able to come up with a common measure in a specific case that will yield intuitively acceptable results, this works against the grain of the analysis as a useful tool at the level of public policy, where there is incentive to come up with more and more general measures in order to compare the greatest possible variety of options. It is hard to avoid the conclusion that no matter what scale of measurement is chosen, any *general* measure of comparison will inevitably produce intuitively unacceptable results.

The technique also does not pay sufficient attention to different human responses to risk. Individual responses to risks that are treated

as numerically equivalent sometimes turn out to be significantly different despite their numerical equivalence. Too often these differences are allowed to disappear in some general formulation, or get written off, if they cannot be made to fit, as simply irrational.

### *The Distribution of Risks*

For cost-benefit analysis to be of use in the formation of public policy, some way of assigning a value to the risks is necessary, so some sensitivity to the ways in which risks are distributed throughout a population is in order. But there are different ways to identify the magnitude of risk to a population. We can, for example, estimate the chance of dying from a nuclear accident as the likelihood of a number of deaths throughout a given population, or we can spread that risk equally over individual members of the same population to estimate the average risk per individual.

Imagine that we are faced with estimating the risks of radiation-related deaths from a nuclear accident of the same magnitude as the one at Chernobyl. Those within the plant and in the area immediately surrounding it are in danger of losing their lives instantly, whereas those living further away have a considerably lower risk of delayed death from cancer. If we translate the expected number of deaths likely to result from such an accident throughout the area into the average individual risk, we seriously underestimate the risks to those who reside in the immediate vicinity of the plant. If we estimate the average individual risk to members of the population within a two-mile radius of the plant, we ignore the risks to the larger population. Which population we choose as the population at risk is not merely a matter of convenience. If we know, for instance, that the chances of dying from a nuclear accident are close to 100 percent for those working within the nuclear plant, whereas those who live furthest away face no risk at all, it is misleading to spread this risk over the entire population as an average risk per individual.

### *The Value of a Human Life*

Human life has a special value in our culture. Many of us feel that our lives ought to be treated differently from other things we value. To some policy analysts it has therefore seemed useful to try to determine a single value for a human life. There is little agreement, however, over how to arrive at such a figure. Since there is no market in human

lives, inferences are frequently drawn from situations in which people reveal what they are willing to pay for their own safety. An investigation into consumer purchases of smoke detectors, for example, estimates the value of a life at \$175,000;<sup>10</sup> whereas a study that looks at the decisions by drivers to wear seat belts puts the figure closer to \$593,000.<sup>11</sup> Yet another study analyzing wage differentials received by workers on dangerous jobs gives an estimate of \$3,200,000.<sup>12</sup> The inferences vary so widely that the most determined policy analyst despairs of ever being able to put a single value on a human life.

More troubling is the assumption by policy analysts that their calculations bear relation to what we understand that value to be. Putting a price on life is sometimes seen as an example of the large-scale computations that have become so much a part of modern politics. These computations “bring with them,” as the philosopher Stuart Hampshire has written, “a coarseness and grossness of moral feeling, a blunting of sensibility, and a suppression of individual discrimination and gentleness.”<sup>13</sup>

To this charge, the policy analyst can reply that governments cannot avoid the trading of lives for money, because governments are responsible for programs in public transportation, national defense, and environmental protection, in which lives are saved or lost at a price. Since governments cannot avoid trading lives for money, they might as well set the terms under which that trading takes place. Indeed, we need not get all worked up about putting a price on life, because the lives for which we seek to find a value are statistical. As Thomas Schelling has explained, “what the government buys if it buys health and safety is a reduction in individual risks. The lives saved are usually a mathematical construct, a statistical equivalent to what, at the level of the individual, is expressible as a longevity estimate but not a finite extension of life.”<sup>14</sup> By deciding to adopt this or that public program, say, to raise or lower auto-emission standards, a decision is made about the number of lives that are likely to be saved or lost, but no decision is made, so the claim runs, about the life or death of identifiable individuals. To the charge that putting a price on life allows government agencies and their officials to “play God,” the policy analyst has this reply:

The specification of the value of life does not give powers over life and death to the administrators of public sector projects. It takes such

powers away. Having placed the responsibility for road-building and medical care in the public sector, we have, knowingly or not, compelled ourselves to decide between your life or mine. We can allow administrators to act as they see fit. . . . Or we can bind these decisions with rules that make those decisions less arbitrary, less subject to political influence, and less tragic. Specification of a uniform value of life constrains the choices of administrators of public sector programs and avoids many situations where one man must give or withhold the life of another.<sup>15</sup>

*Risky Situations of Relative Urgency*

Still, many are nervous about putting a price on life. Somehow it misses the more fundamental point that life is beyond price. Faced with the imminent death of persons whose actual (nonstatistical) lives are in danger, we respond as if we believed that life were sacred and not just another commodity. In efforts to save a small child caught in a well, or miners trapped in some passageway far beneath the surface of the earth, or passengers lost at sea, people are willing to go to almost any lengths, without much concern for “cost,” to save the lives of those at risk.

Suppose that we are faced with determining policy in the long term for, let us say, mining safety. We might very possibly conclude that “in some cases, for the price of a rescue, we could save a much larger expected number of lives through various safety measures.”<sup>16</sup> From the perspective of cost-benefit analysis, “fewest lives would be lost if the entire budget . . . [were] spent on prevention of accidents and on easy rescues, and no heroic or extraordinary rescues . . . attempted in case of disaster.”<sup>17</sup>

But now imagine that we adopt such a policy. Any attempt at heroic rescue of miners will divert resources from the installation of safety equipment, which will save more lives in the long run. But what would it be like to stand by while several miners were lost who might otherwise have been saved but at a cost that had been calculated to be not worth the price?

Here the prescriptions of cost-benefit analysis diverge from what we urgently feel is the right thing to do. We appear to be willing to accept a considerable amount of inefficiency or cost-ineffectiveness in pursuit of what we believe is more important: saving the lives of those who are immediately at risk. Why not then include in a

cost-benefit analysis, not only lives saved and lost, but also some measure of the psychological effects and mental disturbances that persons are likely to experience as a result of being barred from attempts at heroic rescue? There are at least three objections to be made to this proposal.

First, the significance to oneself of being the kind of person who cares enough in situations of extreme urgency is not the sort of thing that can be captured by the narrowly economic values employed in cost-benefit analysis. To capture this significance, the method would have to expand in conception of value.

Second, being the kind of a person who comes to the rescue of someone in distress tends to be experienced as part of what makes life itself worth living, as valuable for its own sake, apart from what good it may produce. Whatever value assigned to it by cost-benefit analysis, there will always be something more of value (i.e., the intrinsic worth of being this kind of person) that the analysis fails to capture.

Third, when we respond to others in situations of distress, we do so without too much thought about how else we might spend our time. We respond sympathetically and spontaneously. Stepping back to make these decisions by cost-benefit analysis may endanger these more or less spontaneous acts of human fellowship, “may profane things that must be held sacred,” as Alan Gibbard has suggested, “things that, because of who we are, we must hold sacred if our lives are to be deeply rewarding.”<sup>18</sup>

Anyone who wishes to defend cost-benefit analysis as a reliable guide to policy concerning risks with an argument based on hypothetical consent cannot simply dismiss cases of heroic rescue as yet more examples of the failing of common sense. Indeed, Leonard and Zeckhauser look for ways to accommodate our feelings of urgency. They acknowledge that “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.”<sup>19</sup> But since they offer no principled way of how to bring in our feelings of urgency, their solution is inadequately *ad hoc*. If some values cannot be handled by the cost-benefit criterion but are still to be given some weight as “additional considerations,” the method begins to look less and less

like a neutral procedure that can be applied more or less automatically.

*Risks and Rights*

Individual rights make up another area with which cost-benefit analysis is ill equipped to deal. There are, of course, many decisions we make in which rights play no role. But in the arena of risks to life, health, and safety this is not so: rights play a very critical role indeed.

Rights constitute what might be called a minimal respect for persons and constrain persons from treating others in certain ways. Rights do not allow trade-offs. They cannot be brought together into one homogeneous total. Each person's rights count separately and have their own moral value. My rights are incommensurable with your rights; each places limits on the exercise of the other.<sup>20</sup>

Imagine that we are faced with the task of developing a national policy concerning secondhand cigarette smoke in enclosed public spaces. If we think of the effects on smoker and nonsmoker alike, there are clear costs and benefits on both sides. There is the irritation from the tobacco smoke felt by the nonsmoker as well as the discomfort and frustration experienced by the smoker who is asked to refrain from smoking. There are also long-term health effects on both.

We live in a culture that takes rights seriously, in particular rights to persons and property. If a person is in an enclosed space from which she cannot easily walk away, the tobacco smoke she experiences from someone else's cigarette is not only a cost, but a violation of her right not to be harmed without her consent. As Peter Railton has put it, "each time I send some of my tobacco smoke your way, you suffer some small physical change, not for the better."<sup>21</sup> On a rights-based view, each person's rights set up a boundary across which others are not permitted to go. And although the change that a person suffers from the tobacco smoke imposed upon him may be very small, on a rights-based view what matters is "whether or not a boundary was crossed, not the magnitude of the consequences: shoplifters have been prosecuted for stealing a pack of chewing gum."<sup>22</sup> Of course, smokers can claim that they have rights too, and they do, but each person's rights are brought up short when they bump up against the boundaries of somebody else's rights. Smokers are free to smoke in the confines of their own rooms. In enclosed

public spaces, their right to smoke stops, like the right to swing one's arm at the tip of somebody else's nose.<sup>23</sup> Rights are not "additional considerations" to be taken into account in some *ad hoc* manner as a supplement to maximizing total benefit. Rights enter into the making of policy at the most basic level, and other considerations such as the comfort of smokers can be entertained only after the rights of nonsmokers have been taken into account.

Workplace air pollution presents similar problems to the risks of secondhand smoke, only here there are obvious benefits to be gained from the polluting activity. There is great incentive, no doubt, to keep production costs as low as possible. Nonetheless, there appears to be general agreement that "workplace air pollution violates workers' rights."<sup>24</sup> Current public policy, reflected in the Occupational Safety and Health Act, is rights based: permissible exposure levels for any toxic substance must ensure that "no employee will suffer material impairment of health or functional capacity."<sup>25</sup>

However, if we were to extend a rights-based solution into other areas, such as outdoor air pollution, most risk-imposing activities would have to be prohibited. The extremity of rights-based public policies concerning risks to safety and health have inclined some policy analysts to disregard rights considerations altogether. Since cost-benefit analysis is unsuited to handle these sorts of considerations anyway, such an inclination may be more self-serving than considered. Nonetheless, it is true that rights leave little room for balancing or compromising, and perhaps in the arena of outdoor air pollution we arrive at the limits of their usefulness in setting policy concerning risk. But if rights place an unusually strict limit on the levels of risk to which citizens may justifiably be exposed, it is also true that risks to which people are exposed are permissible if it can be shown that the bearers of those risks have given their consent. Only consent can turn a potential violation of a right into a permissible act.<sup>26</sup>

#### BRINGING CONSENT BACK IN

Impositions proposed by cost-benefit analysis are justified because reasonable people prefer alternatives where benefits exceed costs and would therefore choose the same outcomes as the analysis recommended if they could go through the process themselves. But this defense of the technique works only if the costs and benefits that are

the input of the analysis are appropriate and comprehensive. Since they are neither, a defense of cost-benefit analysis as a form of consent does not succeed.

Because it fails to respect the distinctiveness of people's responses to risks, or to do justice to the morally significant ways in which risks can be distributed, or to give proper weight to the importance we attach to human life in situations of felt urgency, or to capture the special significance of our concern for autonomy and rights, cost-benefit analysis cannot yield the same result as individual consent. For these reasons we should not be persuaded to allow cost-benefit analysis to determine public policy—to do, as it were, our talking for us.

What we need are not improved analytic techniques or more finely tuned ways of calculating costs and benefits, but greater opportunities for participation in the decision-making process by those affected by public policies concerning risks. That process is, of course, a political process, and some policy analysts despair of our ever coming to any sort of decision, let alone a reasonable one, by that means.

“Muddling through” may be the only *just* way to make public choices involving risk because these decisions raise questions of equity to which cost-benefit analysis is blind and about which it has nothing to say. Our responses to risks presuppose divergent interests and ideals that cost-benefit analysis neither accommodates nor grasps. These divergent interests and ideals are best dealt with by a pluralist approach, not merged into one homogeneous total as they are under cost-benefit analysis. A democratic political process works in an essentially pluralist manner and is designed to handle, however messily, the divergent interests and ideals of different people. It is also important to recognize that we want not only a method that will help us to achieve the right outcomes, but also a method that achieves its outcomes in appropriate and fair ways. “It would not do, for example,” as Douglas MacLean has observed, “to replace trial by jury or democratic elections with technocratic analytic decision-making techniques, even if these techniques . . . would achieve better results.”<sup>27</sup> And it would not do because the legitimacy of the outcome in these cases depends in part on the openness and fairness of the process.

But if people are to become more involved in making public policy decisions concerning risks to life, health, and safety, how are we to respond to the psychological studies which show that our judgments

about risks are frequently “irrational, if not perverse”?<sup>28</sup> First, we must make every effort to educate citizens to be better at probabilistic reasoning and to supply them with relevant information in terms they can understand. We must be careful to frame options in a number of different ways, to counteract our susceptibility to framing effects.

Second, we should note that the findings of risk perception studies show that people are irrational in their attitudes towards risk only by assuming a narrow conception of rationality. Some of our presumed irrationalities and inconsistencies can be explained in other ways, so that on a broader view of the findings our choices turn out to be quite reasonable.

The control people believe they have over risks has sometimes been offered to explain the apparently irrational preference many people show for driving rather than flying. But people are not concerned merely about the chance of dying, but about “what life is like while they are living it.”<sup>29</sup> We may indeed underestimate our chances of survival in situations where we believe we have some degree of control over the risks we bear, but we also *value* that control. As most of us know too well:

Trade-offs between quality and quantity of life are made all the time in personal decisions about health and safety: Mark Twain, told that he could add five years to his life by giving up smoking and drinking, reportedly quipped that five years without smoking and drinking weren't worth living.<sup>30</sup>

Redescribing an option can lead people to reverse their preferences, as the research of Tversky and Kahneman shows. But a number of these preference reversals are also open to alternative explanations, suggesting that there may be more to our ways of thinking and reasoning than is to be found in the conception of instrumental rationality.

We are not only *end*-oriented; we are also *ideal*-oriented. We do not care just about where we end up; we care about the kind of people we have to become in order to end up in one place or another. When, for example, the life of an identifiable individual is in imminent danger and there is some chance, however remote, of saving that person, to stand idly by disturbs our sense of self. There is not only value in lives saved; there is value in being the kind of

person who will go to heroic lengths to rescue another. To stand by is not only costly; it is also *dehumanizing*.<sup>31</sup>

#### CONSENT-BASED JUSTIFICATION

Although I am convinced that a consent-based approach is the only fair and appropriate way to justify risky activity, it is not without problems.

First, it is by now obvious that our minimal first principle cannot hold in the form in which it was originally stated. If we require actual consent to each and every risk of harm that is imposed, much of what we do in the course of our daily lives will have to be ruled out, since it will be impossible to obtain that consent. Some have argued that many of the risks to which we are exposed are too trivial or at least are not sufficiently important to require consent. Thus, it has been claimed, for instance, that “you are not morally required to obtain the permission of everyone who might be in the path of your car should it go out of control on your way to the post office . . . .”<sup>32</sup> We shall need some way of distinguishing the trivial cases that do not require consent from the nontrivial ones.

Second, once we eliminate the trivial cases, if indeed there are such cases, it remains obvious that we shall not be able to obtain the actual consent of persons in most cases of risk imposition. Many risks, such as those imposed on people by the operation of coal-burning and nuclear power plants, involve externalities and public goods. In these cases, risk-imposing decisions will be centralized and public policy will partly determine levels of risk, by setting standards for, say, the venting of radioactivity by nuclear power plants or the release of toxins into the atmosphere by chemical factories. The model of doctor-patient, in which a doctor seeks the prior consent of the patient before, say, imposing the risks of operating on his left lung, cannot serve as a paradigm for most risk decisions. If cost-benefit analysis is not the answer, we shall need to be clearer about the ways people can participate in public decisions that impose risks on them.

For consent to play a legitimating role in the making of these risk decisions, it cannot come into play only in the final stages of the decision-making process. Potential risk bearers will have to be involved at every stage of the process, in formulating, implementing, and adopting public policy. Mark McCarthy has suggested the

creation of labor-management health and safety committees—to help enforce federal standards and address unregulated workplace hazards—and the incorporation of health and safety concerns in the collective bargaining process.<sup>33</sup> He also makes the recommendation that there be greater participation by the affected parties in the drafting of regulations at the federal level.<sup>34</sup>

Third, we need to become clearer about what forms of participation make for morally acceptable decisions. Some believe, for instance, that merely by consenting to work in a factory where one knows in advance that there are airborne hazards, a worker thereby gives his consent to the risks he will bear, or that by purchasing a home near a nuclear power plant, the buyer consents to the risks to which he may be exposed. No doubt for this sort of *tacit* consent to be meaningful, it must be true that one has had an opportunity to choose among a set of alternatives that are viable and risk-free and that one has been fully informed about potential risks. But even if these conditions are met, it is unlikely that consenting to work at a factory where one knows there are risks constitutes consent to those risks. Judith Thomson has argued,<sup>35</sup> persuasively I believe, that in consenting to walk late at night through a park that one knows to be unsafe, one does not thereby consent to being mugged. We need to become clear about what counts and what does not count as “consenting to a risk.”<sup>36</sup>

Finally, we must acknowledge that in looking for ways for potential risk bearers to participate more fully in the decision-making process, we may be calling on skills and habits of mind with which citizens have little experience or experience of the wrong kind. In negotiations interested parties often see themselves in a trial-like process, inclined to assert their positions in the most extreme ways; they may be neither capable of nor open to arriving at a consensus on public policies concerning risk. No doubt there is some truth to the charge that we live in an adversary culture.<sup>37</sup>

A vision of citizenship as largely a defensive strategy and chiefly a matter of rights designed to protect the citizen from too-powerful governors can be traced back to the founding of the republic. For a consent-based approach to the problem of risk impositions to work in the ways I have outlined, this vision of citizenship may itself have to undergo transformation. Many of us will have to learn a new set

of civic virtues if we are to arrive at a consensus on pressing public policy questions concerning risk to our health and safety.

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#### ENDNOTES

- <sup>1</sup>The examples are drawn from Lorraine Daston, who offers a brilliant analysis of the attitudes toward life insurance, security, and risk in the early modern period in “The Quantification of Risk in the Enlightenment,” unpublished manuscript.
- <sup>2</sup>Annette Baier, “Poisoning the Wells,” in Douglas MacLean, ed., *Values at Risk* (Totowa, N. J.: Rowman & Allanheld, 1986), 49.
- <sup>3</sup>Robert Nozick, who gives a sophisticated account of rights in his book *Anarchy, State and Utopia* (New York: Basic Books, 1974), 75, notes that “no natural-law theory has yet specified a precise line delimiting people’s natural rights in risky situations,” but does not go on to offer such a theory himself. Samuel Scheffler observes that “while traditional lists of individual rights do typically restrict harmful activity, they are generally silent on the question of risk,” in *To Breathe Freely*, ed. by Mary Gibson (Totowa, N.J.: Rowman & Allanheld, 1985), 81. Judith Thomson makes a modest but wonderfully sensitive beginning in her essay “Imposing Risks,” also in *To Breathe Freely*, 124–40. Both *To Breathe Freely* and *Values at Risk* contain essays that focus on ethical issues raised by government policy concerning air pollution and the meaning and assessment of risk. These two books are among the best treatments of these subjects of which I am aware, and I have benefited from them greatly.
- <sup>4</sup>See Patrick Derr et al., “Worker/Public Protection: The Double Standard,” *Environment* 23 (9) (1981), for a similar proposal.
- <sup>5</sup>Amos Tversky and Daniel Kahneman, “The Framing of Decisions and the Psychology of Choice,” *Science* 211 (1981): 453–58.
- <sup>6</sup>See Richard H. Thaler, “Towards a Positive Theory of Consumer Choice,” *Journal of Economic Behavior and Organization* 1 (March 1980): 39–60.
- <sup>7</sup>Originally reported by Barbara J. MacNeil, Stephen G. Pauker, Harold C. Fox, Jr., and Amos Tversky in “On the Elicitation of Preferences for Alternative Therapies,” *New England Journal of Medicine* 306 (May 1982): 1259–62, described by Amos Tversky and Daniel Kahneman in “Can Normative and Descriptive Analysis be Reconciled,” Center for Philosophy and Public Policy project funded by the National Science Foundation, grant number SES–8317726, RR–4 (March

- 1987), and summarized in *Philosophy & Public Policy Report* 8 (1) (Winter 1988): 4.
- <sup>8</sup>Herman B. Leonard and Richard J. Zeckhauser, "Cost-Benefit Analysis Applied to Risks: Its Philosophy and Legitimacy," in *Values at Risk*, 31–48.
- <sup>9</sup>*Ibid.*, 36.
- <sup>10</sup>R. Dardis, "The Value of Life: New Evidence from the Marketplace," *American Economic Review* 70 (December 1980), 1077–82.
- <sup>11</sup>Glen Bloomquist, "Value of Life-Saving: Implications of Consumption Activity," *Journal of Political Economy* 87 (June 1979): 540–58.
- <sup>12</sup>C. A. Olson, "An Analysis of Wage Differentials Received by Workers on Dangerous Jobs," *Journal of Human Resources* 10 (Summer 1981): 165–85.
- <sup>13</sup>Stuart Hampshire, "Morality and Pessimism," in *Morality and Conflict* (Cambridge: Harvard University Press, 1983), 86, quoted by MacLean in *Values at Risk*, 85.
- <sup>14</sup>Thomas Schelling, "The Life You Save May Be Your Own," in *Problems in Public Expenditure Analysis*, ed. Samuel Chase (Washington, D. C.: The Brookings Institute, 1968), 142.
- <sup>15</sup>Dan Usher, "The Value of Life for Decision Making in the Public Sector," *Ethics and Economics*, ed. Ellen Frankel Paul, Fred D. Miller, Jr., and Jeffrey Paul (Oxford: Basil Blackwell, 1985), 191.
- <sup>16</sup>Alan Gibbard, "Risk and Value," in *Values at Risk*, 101.
- <sup>17</sup>*Ibid.*, 97.
- <sup>18</sup>*Ibid.*, 102.
- <sup>19</sup>Leonard and Zeckhauser, 42.
- <sup>20</sup>For a further discussion of some of these issues see the introduction by Amartya Sen and Bernard Williams to their edited volume *Utilitarianism and Beyond* (Cambridge: Cambridge University Press, 1982).
- <sup>21</sup>Peter Railton, "Locke, Stock, and Peril: Natural Property Rights, Pollution, and Risk," in *To Breathe Freely*, 92.
- <sup>22</sup>*Philosophy & Public Policy Report* 5 (3) (Summer 1985): 2.
- <sup>23</sup>*Ibid.*
- <sup>24</sup>*Ibid.*, 3.
- <sup>25</sup>*Ibid.*
- <sup>26</sup>It is sometimes thought that a violation of a person's rights might be justified if one compensated him afterwards. If this were so, this could become another way to turn a potential violation of a right into a permissible act, implying yet another way to justify risk impositions. In this view consent would not be required and risk impositions would be justified so long as one compensated each and every person for any harm that occurred as the result of one's having exposed that person to the risk of harm. But to harm another without his consent, so long as one compensates, pre-empts his right to decide things for himself, treats him as a

mere means to one's own ends, and enables those who have sufficient resources to engage in harmful activities more readily and with less compunction than those of lesser means. One way not to deal with the risks imposed on nonsmokers from secondhand cigarette smoke is by placing an excise tax or a surcharge on cigarettes, which would simply allow those who could afford the increased cost of cigarettes to pay and pollute. An argument for regarding standards of safety and health in the workplace as a matter of workers' rights, violations of which are permissible only with their consent, is to block the option otherwise open to firms to pay compensation costs rather than make the workplace a safe and healthy environment within which to work. For a related discussion of these issues, see Railton, especially 112–17.

<sup>27</sup>Douglas MacLean, introduction to *Values at Risk*, 4–5.

<sup>28</sup>*Philosophy & Public Policy Report*, 8 (1) (Winter 1988): 2.

<sup>29</sup>*Ibid.*

<sup>30</sup>*Ibid.*

<sup>31</sup>Gibbard, 102.

<sup>32</sup>Mary Gibson in the introduction to *To Breathe Freely*, xi.

<sup>33</sup>Mark McCarthy, "Reform of Occupational Safety and Health Policy," in *To Breathe Freely*, 201–21.

<sup>34</sup>Union officials are not always pleased by proposals for joint labor-management committees and are reluctant to include safety and health concerns in the bargaining process. Their worries are also not completely without reason and need to be taken into account if any restructuring of present relationships between labor and management were to occur. Union opposition is expressed on a variety of grounds by saying that health and safety are rights and workers ought not to have to give up wages or other benefits to pay for them, that safety committees are a way to co-opt workers, that management does not take occupational safety and health seriously enough and ought to be compelled to improve conditions by stricter national regulations, that unions have neither the power nor the legitimacy in this country (where only 20 percent of the workforce is unionized) to negotiate with management to improve health and safety conditions in the workplace, and that negotiated agreements on health and safety between labor and management open unions up to liability suits from disabled workers. See McCarthy, 216–17.

<sup>35</sup>Judith Thomson, "Imposing Risks," in *To Breathe Freely*, 139.

<sup>36</sup>Since certain cases of *tacit* consent may be thought to be morally invalid, and may not count as consent, it should perhaps be noted that there are also circumstances in which *actual* consent is thought to be morally invalid. Thus, in contractual relationships there are a number of conditions that are generally taken to invalidate the actual agreement among the parties, even if both parties have given their consent, to say nothing of the more complex cases in which courts have refused to uphold workers' agreements to exempt their employers from liability due to negligence. For a potential risk bearer's consent to justify a risk imposition, the conditions under which both *tacit* and *actual* consent are morally valid will have to be fully and clearly set out.

<sup>37</sup>For accounts of the contrast between adversary and consensus culture, see Steven Kelman, *Regulating America, Regulating Sweden: A Comparative Study of Occupational Safety and Health Policy* (Cambridge: MIT Press, 1982), and Michael Thompson, “To Hell with the Turkeys! A Diatribe Directed at the Pernicious Trepidation of the Current Intellectual Debate on Risk,” in *Values at Risk*, 113–35.