

September 1996

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Andrew F. Fritzsche, *The Moral Dilemma in the Social Management of Risks*, 7 RISK 291 (1996).

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The Moral Dilemma in the Social Management of Risks

Andrew F. Fritzsche*

Many activities are generally recognized as hazardous while perhaps many more are vaguely felt to be detrimental to our health and well-being. Particularly the latter often cause widespread anxiety. The risk assessment community has tried to come to grips with such hazards by quantifying risks in a strictly rational way. Increasingly, however, such an approach is severely criticized, as not only narrow-minded and inhuman but also, in the final analysis, as morally reprehensible.

Hazards arise not only from personal decisions; they are an outcome of social processes with many possible consequences, both positive and negative. Besides objective elements of harm that risk analysts attempt to quantify, such processes also have many subjective implications related to higher idealistic aims. Such implications often determine the perception of a hazard far more strongly than the objective risk magnitude. Thus, Kasperson et al.¹ speak of the "social amplification of risk." Judging risk by the probability and the magnitude of specific categories of harm alone is thus rightly felt to be socially incomplete, even unacceptable.

On ethical grounds, emotions should be considered. Political decisions about hazards are often strongly influenced by emotional concerns. Politicians, always with an ear open to people's concerns, frequently seem to prefer anxiety reduction over risk abatement.

As emotional concerns are only rarely quantifiable, they can figure in the social management of risks in only unsystematic and subjective ways. Formal measures of risk truly define material aspects of harm, but how far should or may risk decisions deviate from a "facts" basis?

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¹ Roger E. Kasperson et al., *The Social Amplification of Risk: A Conceptual Framework*, 8 *Risk Anal.* 177 (1988).

This itself is an issue of values. It is difficult to agree on values; they are deeply grounded in our individual psyche and can differ immensely from person to person. Values are also closely related to ideals, and many ideals are carried by ethical principles. Based on such principles, we try to achieve as much good as we can in risk decisions we can influence. At first, one might think the ideal would be zero risk. Yet, it quickly becomes clear that *no* undertaking can ever be risk-free. Increased safety can be achieved only with increased effort and, in the final analysis, cost. Also, under the law of diminishing returns, still more safety inexorably incurs disproportionately higher costs.

How far can society afford to go in submitting to praise-worthy ethical principles? There are clearly limits to the effort and costs society can expend in any field, including that of the safety of its citizens. Within these limits there is, thus, always competition between many worthwhile goals. Effort and money spent here may be still more urgently needed elsewhere. In every societal undertaking, the efficiency with which the effort expended has achieved or would achieve its aim should be checked.

This has been done in many safety areas. A few examples to give a general picture of fatality risks are presented in Table 1. Equipping automobiles with safety belts and air bags at costs of one to a few hundred thousand dollars per statistical life saved can be considered an expression of an apparently widely accepted price that citizens of industrialized Western nations are prepared to pay. But totally different valuations apply elsewhere.

Thus, one must wonder who (in his right mind) can justify the realization of safety measures equivalent to those mentioned in the lower part of Table 1, equivalent to the expenditure of many millions or even billions of dollars to avoid a single statistical death. The incessant and widespread call for always more safety in certain areas, frequently the expression of diffuse irrational fears, can lead to totally grotesque situations as shown in the last line. The effort society wastes (or would waste) in such projects could be invested with incomparably higher yield in a multitude of far more needy areas.

Table 1
Approximate Cost of Various Safety Measures
(per statistical life saved)

<i>Safety measure</i>	<i>Cost (\$US)</i>
• Cure of child diseases in Cambodia ²	10 ²
• Safety belts in automobiles (various sources)	25 – 112 x 10 ³
• Air bags, driver protection (various sources)	130 – 400 x 10 ³
• Grounding of DC 10 aircraft in 1979 ³	30 x 10 ⁶
• Removal of asbestos from public buildings ⁴	75 – 1400 x 10 ⁶
• Hydrogen recombiners in nuclear power plants ⁵	Over 3 x 10 ⁹
• Evaporation of slightly radioactive waste water at TMI ⁶	25 x 10 ⁹
• Requested additional protection at low-level radioactive waste disposal facility ⁷	Many 10 ¹²

Given an ethically motivated desire to account for subjective feelings and emotions as well as objective risk estimates, it is nevertheless hard to justify expenditures many orders of magnitude higher than others to attain no more than the same increment of objective safety. This is not just a purely financial matter, as has so often been implied, and that is the thrust of this paper.

It would seem to be as much, if not more, an ethical imperative to avoid emotionally motivated “overkill” of hazards at the cost of achievable safety benefits that may be incomparably greater. Respect for ethical principles in the management of risks does not mean as much safety as is politically attainable in each case. Far from it — with the limited means available, really just and ethical behavior would call for a reduction of high risks before approaching already low risks. This

² In a personal communication, the Swiss pediatrician, Beat Richner, indicates that, at the hospital he founded and directs in Pnom Penh, he can, for little more than \$100, save a child’s life from the many infectious diseases rampant there.

³ Ernest Siddall, *Risk, Fear and Public Safety* (Atomic Energy of Canada Ltd., April 1981).

⁴ B.T. Mossman et al., *Asbestos: Scientific Developments and Implications for Public Policy*, 247 *Science* 294 (1990).

⁵ Edward P. O’Donnell & John J. Mauro, *A Cost-Benefit Comparison of Nuclear and Nonnuclear Health and Safety Protective Measures and Regulations*, 20 *Nuclear Safety* 525 (1979).

⁶ Merrill Eisenbud, *Disparate Costs of Risk Avoidance*, 241 *Science* 1277 (1988).

⁷ *Id.*

achieves optimum safety for the maximum number of individuals. In its practical socio-political application, this prescription would seem to exhibit sufficient unsharpness to allow for some consideration of widely held subjective perceptions of risk. Yet, it would rule out excesses such as indicated above.

We must begin to understand the causes of the misapprehension of reality that lies behind at least a part of the amplification of risks. This misapprehension is an expression of feelings and emotions. These do not stem from our rational mind and have their source in our unconscious. The German schools of depth psychology and in particular the Swiss psychoanalyst, Jung have thrown much light on the role and the importance of our unconscious — and have made us aware of how one-sidedly our Western culture has focused strictly upon rationality. Thus, many spiritual needs have been suppressed into our unconscious, where they can influence our attitudes and behavior. While much of this is beneficial, Jung warned that our unconscious can also influence rational thought — even against our better interests, and without our being aware of it. An instinctive or emotional judgment of the real world — in the present context the judgment of a hazard — can be highly misleading. Only an enhanced awareness of such psychic influence on rational thought will allow us to come to terms in a realistic way with risks to which we are exposed. These thoughts are developed in greater detail in an earlier article.⁸

Well-meaning philanthropists in countless public interest groups who demand ever more safety can be said to be blind in one eye when they fail even to glance beyond their pet grievance. The many exponents of political science and ethics who are so critical of scientific and technological hazards address less than half the problem if they do not acknowledge the wider picture. In the final analysis, their efforts may easily be counterproductive and cause more ill than good.

There is not only a moral need to acknowledge that aspects other than the probability of objectively measurable harm need to be considered in the judgment of hazards. It is just as much an ethical imperative to provide as much objective safety for as many as possible within available limited means. This places risk managers and political

⁸ Andrew F. Fritzsche, *The Role of the Unconscious in the Perception of Risks*, 6 Risk 215 (1995).

decision makers in a severe moral dilemma, the resolution of which is, in every single case, a social obligation involving great responsibility. But this is the essence of political judgment and decision making.

Decision makers must become fully aware of this dilemma and its incisive consequences. As we have seen, this has, by no means, always been the case. The basis for a responsible resolution of this dilemma is not only an awareness of objective “facts”, e.g., the nature and magnitude of benefits and possible harm, the probability of harm — i.e., the risks — and incurred costs, but also a realistic appreciation of the causes and the practical significance of subjective valuations of hazards which, in some cases, though widely held, may be quite irrational.



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