Introduction

This is a book about fear, democracy, rationality, and the law. Sometimes people are fearful when they ought not to be, and sometimes they are fearless when they should be frightened. In democratic nations, the law responds to people's fears. As a result, the law can be led in unfortunate and even dangerous directions. The problem cuts across countless substantive areas, including global warming, genetic engineering, nuclear power, biodiversity, pesticides, blood transfusions, food safety, cloning, toxic chemicals, crime, and even terrorism and efforts to combat it. "Risk panics" play a large role in groups, cities, and even nations.

DELIBERATION AND THEORY

How should a democratic government respond to public fear? What is the connection between fear on the one hand and law and policy on the other? I suggest that these questions are best approached if we keep two general ideas in mind. The first is that well-functioning governments aspire to be *deliberative democracies*. They are accountable to the public, to be sure; they hold periodic elections and require officials to pay close attention to the popular will. Responsiveness to public fear is, in this sense, both inevitable and desirable. But responsiveness is complemented by a commitment to deliberation, in the form of reflection and reason giving. If the public is fearful about a trivial risk, a deliberative democracy does not respond by reducing that risk. It uses its own institutions to dispel public fear that is, by hypothesis, without foundation. Hence deliberative democracies avoid the tendency of populist systems to fall prey to public fear when it is baseless. They use institutional safeguards to check public panics.

The same safeguards come into play if the public is not fearful of a risk that is actually serious. When this is so, a deliberative democracy takes action, whether or not the public seeks it. In these respects, a well-functioning democratic system places a large premium on science and on what experts have to say. It rejects simple populism. Of course science may be inconclusive and experts may err. Of course the public's values should ultimately play a large role. Perhaps the public is especially opposed to risks that are concentrated in poor areas; perhaps citizens are particularly concerned about risks that are potentially catastrophic or uncontrollable. In a democracy, people's reflective values prevail. But values, and not errors of fact, are crucial.

My second point is that well-functioning democracies often attempt to achieve *incompletely theorized agreements*.[1] Especially when they are heterogeneous, such democracies attempt to solve social disputes by seeking agreements not on high-level theories about what is right or what is good, but on practices and low-level principles on which diverse people can converge. Citizens in free societies differ on the largest issues. They disagree about the nature and the existence of God; about the relationship between freedom and equality; about the place of utility and efficiency; about the precise nature of fairness. In the face of those differences, it is often best, if possible, to avoid committing a nation to a highly controversial view, and instead to seek solutions on which diverse people might agree. In a slogan: *Well-functioning societies make it possible for people to achieve agreement when agreement is necessary, and unnecessary for them to achieve agreement when agreement is impossible.*

The point has special relevance to the question of how to handle public fear. Sometimes that question is thought to require government to resolve large problems about its basic mission – to think deeply, for example, about the nature and meaning of human life. When people disagree about how to handle risks associated with genetic modification of food, or terrorism, or pesticides, or global warming, it is partly because of differences about the facts; but it is also because of differences about fundamental issues. To the extent possible, I suggest that those fundamental issues should be avoided. Deliberative

[1] I defend and elaborate this idea in Cass R. Sunstein, *Legal Reasoning and Political Conflict* (New York: Oxford University Press, 1996).

democracies do best if they abstract from the largest questions and try to obtain a consensus from people who disagree on, or are unsure about, how to resolve those questions. In the context of fear, I suggest, it is often possible to obtain just such a consensus.

But what counts as fear? Throughout this book, I understand fear to depend on some kind of judgment that we are in danger.[2] Some people are afraid of spending many hours in the sun, simply because they believe that doing so creates a risk of skin cancer. Other people are afraid of shaking hands with someone who has AIDS, because they think that shaking hands creates a risk of transmission. Still other people are frightened by the prospect of global warming, thinking that serious risks to human beings are likely to result. Of course the beliefs that underlie fear may or may not be justified.

Is some kind of "affect" a necessary or sufficient condition for fear? Many people think that without affect of some kind, people cannot really be afraid; perhaps human fear does not count as such in the absence of identifiable physiological reactions. It is generally agreed that the brain contains a distinctive region, the amygdala, that governs certain emotions and that is particularly involved in fear.[3] In fact these physiological reactions, and the relevant regions of the brain, permit extremely rapid responses to hazards, in a way that increases our chance to stay alive but that can also lead us to excessive fear about improbable dangers. Obviously these rapid responses have evolutionary advantages.

These points will turn out to be highly relevant to some of the arguments I shall be making, especially those that involve the human tendency to neglect the likelihood that bad outcomes will occur. But for the most part, my claims can be accepted without adopting a particularly controversial view about what fear really is.

PRECAUTIONS AND RATIONALITY

My point of departure is the Precautionary Principle, which is a focal point for thinking about health, safety, and the environment throughout Europe. In fact the Precautionary Principle is receiving

[2] See Martha C. Nussbaum, *Upheavals of Thought* (New York: Cambridge University Press, 2002).
[3] See Joseph E. LeDoux, *The Emotional Brain* (New York: Simon & Schuster, 1996).

increasing worldwide attention, having become the basis for countless international debates about how to think about risk, health, and the environment. The principle has even entered into debates about how to handle terrorism, about "preemptive war," and about the relationship between liberty and security. In defending the 2003 war in Iraq, President George W. Bush invoked a kind of Precautionary Principle, arguing that action was justified in the face of uncertainty. "If we wait for threats to fully materialize, we will have waited too long."[4] He also said, "I believe it is essential that when we see a threat, we deal with those threats before they become imminent. It's too late if they become imminent."[5] What is especially noteworthy is that this way of thinking is essentially the same as that of environmentalists concerned about global warming, genetic modification of food, and pesticides. For these problems, it is commonly argued that regulation, rather than inaction, is the appropriate course in the face of doubt.

The Precautionary Principle takes many forms. But in all of them, the animating idea is that regulators should take steps to protect against potential harms, even if causal chains are unclear and even if we do not know that those harms will come to fruition. The Precautionary Principle is worthy of sustained attention for two reasons. First, it provides the foundation for intensely pragmatic debates about danger, fear, and security. Second, the Precautionary Principle raises a host of theoretically fascinating questions about individual and social decision making under conditions of risk and uncertainty. For the latter reason, the principle is closely connected to current controversies about fear and rationality – about whether individuals and societies do, or should, follow conventional accounts of rational behavior.

My initial argument is that in its strongest forms, the Precautionary Principle is literally incoherent, and for one reason: There are risks on all sides of social situations. It is therefore paralyzing; it forbids the very steps that it requires. Because risks are on all sides, the Precautionary Principle forbids action, inaction, and everything in between. Consider the question of what societies should do about genetic engineering, nuclear power, and terrorism. Aggressive steps,

[4] See Complete Text of Bush's West Point Address (June 3, 2002), available at http://www.newsmax.com/archives/articles/2002/6/2/81354.shtml.

[5] See Roland Eggleston, Bush Defends War (Feb. 9, 2004), http://www.globalsecurity.org/wmd/library/news/iraq/2004/02/iraq-040209-rfer101.htm.

designed to control the underlying risks, seem to be compelled by the Precautionary Principle. But those very steps run afoul of the same principle, because each of them creates new risks of its own. It follows that many people who are described as risk averse are, in reality, no such thing. They are averse to *particular* risks, not to risks in general. Someone who is averse to the risks of flying might well be unconcerned with the risks of driving; someone who seeks to avoid the risks associated with medication probably disregards the risks associated with letting nature take its course; those who fear the risks associated with pesticides are likely to be indifferent to the risks associated with organic foods.

Why, then, is the Precautionary Principle widely thought to give guidance? I contend that the principle becomes operational, and gives the illusion of guidance, only because of identifiable features of human cognition. Human beings, cultures, and nations often single out one or a few social risks as "salient," and ignore the others. A central point here involves the *availability heuristic*, a central means by which people evaluate risks. When people lack statistical knowledge, they consider risks to be significant if they can easily think of instances in which those risks came to fruition. Individual and even cultural risk perceptions can be explained partly in that way. It follows that there can be no general Precautionary Principle – though particular, little precautionary principles, stressing margins of safety for certain risks, can and do operate in different societies. As I shall also suggest, the Precautionary Principle might well be reformulated as an Anti-Catastrophe Principle, designed for special circumstances in which it is not possible to assign probabilities to potentially catastrophic risks.

THE PLAN

This book is divided into two parts, one dealing with problems in individual and social judgments and the other with possible solutions. The first and second chapters elaborate the claims I have just summarized. The third and fourth extend the cognitive and cultural stories in two ways: first, by exploring human susceptibility to worst-case scenarios; and second, by developing an understanding of social influences on behavior and belief. The initial claim in chapter 3 is that a salient incident can make people more fearful than is warranted by

reality. Well-publicized events – a terrorist attack, a case of mad cow disease, an apparent concentration of leukemia in an area with unusually high levels of cellphone use – can lead people to believe that the risk is much greater than it really is. But most of my discussion is devoted to the phenomenon of "probability neglect," by which people focus on the worst case, and neglect the probability that it will actually occur. Especially when emotions are intensely engaged, worst cases tend to crowd out an investigation of the actual size of the risk.

Chapter 4 emphasizes that fear does not operate in a social vacuum. It is spread through social interactions. Hence I explore, in the context of fear, the dynamics of two phenomena: *social cascades* and *group polarization*. Through social cascades, people pay attention to the fear expressed by others, in a way that can lead to the rapid transmission of a belief, even if false, that a risk is quite serious (or – at least equally bad – not at all serious). Fear, like many other emotions, can be contagious; cascades help to explain why. Through group polarization, social interactions lead groups to be more fearful than individuals. It is well established that members of deliberating groups often end up in a more extreme position in line with their predeliberation tendencies; hence groups can be far more fearful than their own members before deliberation began. An understanding of social cascades and group polarization helps to illuminate the much-discussed idea of "moral panics." Indeed, social fears, of the sort I am emphasizing here, often amount to moral panics; and a principle of precaution often operates when a moral panic is occurring.

Part II discusses some solutions to the problem of misplaced public fear. Chapter 5 extracts some positive lessons from the challenge to the Precautionary Principle. I sketch an Anti-Catastrophe Principle, specifically designed for situations of uncertainty and potentially severe harm. Outside of the context of catastrophe, I explore the relevance of irreversibility and also suggest the need for margins of safety, chosen on the basis of a wide rather than narrow understanding of what is at stake. I deal as well with the problem of public management of fear.

Chapters 6 and 7 investigate the uses and limits of cost-benefit analysis. I suggest that cost-benefit balancing has a significant advantage over the Precautionary Principle insofar as it uses a wide rather than narrow viewscreen for the evaluation of risks. But there is a

serious problem with cost-benefit analysis: Understood in a certain way, it may neglect dangers that cannot be established with certainty. It follows that sensible cost-benefit analysts attend to speculative harms, not merely demonstrable ones. But how can risks be turned into monetary equivalents? How can it make sense to say that a mortality risk of 1/100,000 is worth $50, rather than twice that much or half that much? One of my major goals here is to sketch the theoretical underpinnings of cost-benefit analysis as it is currently practiced – to show that the assignment of monetary values to risks is far more plausible and intuitive than it might seem. But I also suggest that current practice has a major problem: it uses a *uniform* value for statistically equivalent risks, when the very theory that underlies current practice requires a wide range of values. The reason is that people care about qualitative distinctions among risks; they do not see statistically equivalent risks as the same.

Chapter 7 explores more fundamental questions about cost-benefit analysis. I suggest that in some cases, what is needed is democratic deliberation about what should be done, rather than an aggregation of costs and benefits – and that this point raises grave doubts about cost-benefit balancing in certain settings. I also suggest that in deciding what should be done, regulators must focus on who is helped and who is hurt – a question on which cost-benefit balancing says nothing. But these points should not be taken to mean that such balancing is to be rejected. They mean only that an assessment of costs and benefits tells us far less than we need to know.

Chapter 8 emphasizes cases in which people fail, foolishly, to take precautions. Here the problem is insufficient rather than excessive fear. I suggest the possibility of "libertarian paternalism," that is, an approach that steers people in directions that will promote their welfare without foreclosing their own choices. The chief theoretical claim is that often people do not have stable or well-ordered preferences. The chief practical claim is that it is possible to be libertarian (in the sense of respectful of private choices) while also accepting paternalism (through approaches that lead people in welfare-promoting directions). When people's fears lead them in the wrong directions, libertarian paternalism can provide a valuable corrective.

Chapter 9 explores the relationship between fear and liberty. In the context of terrorism and threats to national security, unjustified

restrictions on civil liberties are a likely result, especially when the majority that favor those intrusions are not also burdened by them. Indeed, a kind of Precautionary Principle often produces indefensible limits on freedom. I argue that courts can reduce the risks posed by excessive fear in three ways. First, and most fundamentally, they should demand clear legislative authorization for any intrusions on liberty; they should not permit such intrusions simply because the executive favors them. Second, courts should give close scrutiny to intrusions on liberty that provide asymmetrical benefits and burdens by imposing restrictions on members of readily identifiable groups rather than the public as a whole. Third, courts should adopt rules or presumptions that reflect what might be called "second-order balancing," designed to counteract the risks of error that accompany ad hoc balancing.

APPROACHES AND POLICIES

I do not aim here to reach final conclusions about how to handle particular hazards. Of course I have views on many of them. I believe, for example, that electromagnetic fields pose little risk; people have been far more fearful of them than the evidence warrants. By contrast, countries all over the world should be taking far more aggressive steps to reduce tobacco smoking, which produces millions of preventable deaths each year (and nearly half a million in the United States alone). Far more should be done, especially in poor countries, to control the spread of HIV/AIDS. I also believe that significant steps should be taken to control the problem of global warming – and hence that the antiregulatory posture of the United States under George W. Bush has been worse than unfortunate. Global warming threatens to impose serious risks and wealthy nations have a particular obligation to reduce those risks – partly because they are largely responsible for the problem, partly because they have the resources to do something about it. A great deal of attention should be paid to the promise of alternative sources of energy, which pose lower risks than those associated with nuclear power and fossil fuels. A significant, and too often neglected, social risk comes from sun exposure, which causes skin cancer, a fact that has yet to provide sufficient changes in people's behavior.

In terms of general orientation, I do not believe that it makes the slightest sense to oppose government regulation as such, or to claim that "deregulation" is an appropriate response to the problem of excessive public fear. Of course overregulation can be found in many places, and of course it is a problem; but the problem of underregulation is also serious. In many domains, government regulation is indispensable, particularly in the context of health, safety, and the environment. Nothing said here should be taken to suggest otherwise.

I also believe that an assessment of both costs and benefits is highly relevant to regulatory choices. For many problems, a form of cost-benefit balancing is far more helpful than the Precautionary Principle. But I do not believe that "economic efficiency" should be the exclusive foundation of regulatory decisions. On the contrary, that idea seems to me quite preposterous. Economic efficiency attempts to satisfy people's existing preferences, as measured by their "willingness to pay," and this is an inadequate basis for law and policy. Sometimes regulatory questions call for a reassessment of people's existing preferences, not for simple aggregation of those preferences; and distributional issues matter a great deal. In any case I shall raise questions about the idea of "willingness to pay," which is central to economic analysis of regulatory problems. If poor people are unable (and hence unwilling) to pay much to reduce a risk, it does not follow that private and public institutions should refuse to act. Special measures should be taken to assist those who are most in need.

All of these points will play a role in the discussion. But let us begin with the issue of precaution.

PART I

Problems