

JUDGMENT

MISGUIDED

Intuition and Error
in Public Decision Making

Jonathan Baron

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Preface

This book presents my current thinking about what is important in the psychology of thinking and decision making and how it relates to questions of public interest. I try to provide sufficient references so that an academic reader could track down the source of these ideas. The ideas here are a continuation of those presented in an article I wrote for *Behavioral and Brain Sciences* in 1994, titled “Nonconsequentialist Decisions.”

I would like this to be read by everyone concerned with public affairs or the psychology of thinking and decision making. That is, of course, too much to expect.

In attempting to reach a somewhat wider audience than usual for me, I have tried to simplify the presentation by eliminating some of the usual academic qualifications, such as “It could be argued that X ” when I really mean to say that I think X is true. I have also put references in endnotes so as not to clutter the text.

I am grateful for specific comments and general advice in the early stages of this project from Paul Rozin, Martin Seligman, and Karen Steinberg. Helpful comments on specific chapters came from Willett Kempton, Howard Kunreuther, Howard Margolis, Jay Schulkin, Karen Steinberg, and Peter Ubel. Judy Baron, David Baron, Deborah Frisch, Joshua Greene, Robert Jervis, and Joan Bossert and Nancy Hoagland (at Oxford University Press) provided helpful comments on the whole book. Mark Spranca convinced me of the importance of the intuition of naturalism, and Howard Margolis strengthened my belief that intuitions can affect public outcomes. Before and during the writing of this book, my research has been supported by the National Science Foundation. David Baron helped with typesetting, which was done with L^AT_EX2e in Adobe Palatino font.

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CHAPTER 1

Introduction

One way to make decisions is to weigh our options on the basis of their expected effects. We would favor options that we expected to have better outcomes. We do not always make decisions this way. Instead, we apply various intuitive rules to our decisions, rules that do not refer to outcomes alone. We also apply these rules when we evaluate the decisions of others, including government officials.

For example, we often consider the harm caused by our actions to be more serious and more to be avoided than harm caused by our omissions. We avoid positive options that have negative side effects, even if the positives outweigh the negatives. The resulting bias against helpful action is often reinforced by similar biases in favor of the status quo, of what is natural, or of what others have autonomously chosen. When we think about decisions affecting large groups of people, we tend to favor groups we belong to — such as nations or races — at the expense of outsiders. We judge fairness within these groups, attending less to the larger groups that contain them. Our judgments of fairness and justice are based on a kind of balancing — an eye for an eye — even when we could foresee that this attitude would make things worse on the whole.

The point of this book is that we should not be surprised when these intuitions — played out in the public sphere through the actions of individuals and government officials alike — lead to outcomes that are worse than the best we could have, often substantially worse. After all, these intuitions are not based on the principle of achieving the best. Sometimes they may lead to the best despite their apparent design, but this is not typical. If we want a better world, one relatively inexpensive

way to get it is to improve the way we make decisions. We need to think more about their effects, and less about the rules that might guide them.

Consider again the intuitive bias against causing harm through action, as opposed to omission. As a result of this intuition, some people avoid taking protective measures that might cause harm, even though the same measures are more likely to prevent harm. When a vaccine — such as the DPT vaccine (diphtheria, pertussis, and tetanus) — causes rare but serious side effects or death, people resist using it because they want to avoid these effects, even though the vaccine can prevent a disease that is more likely and equally serious and deadly. Government officials resist requiring the vaccine. It is not that the government officials are wise but capitulate to public demands. They make the same intuitive judgment.

The intuition that distinguishes acts and omissions is a principle that people apply to their decisions. It has, through its effect on many people, brought about outcomes that nobody wanted, in particular, epidemics and deaths from preventable diseases. This is the pattern that I explore in this book. People follow intuitive principles of decision making that are not designed to produce the best consequences in all cases. Predictably, these principles sometimes lead to unhappy results that could have been avoided if people had focused more on how to produce the best results. So our intuitive principles have a cost. I focus on cases in which the cost is borne by many people — that is, public outcomes. Some of these people may not even agree with the principle that made things worse for them. The question I raise is why we should keep paying that cost.

Intuitions

People have an intuitive moral rule “Do no harm” or, more specifically, “Do no harm through action.” In some cases, this rule is sensible. If Tom pushes Dick into the lake and Harry fails to rescue him, we punish Tom more than we punish Harry. Harry, after all, might have thought that someone else would rescue Dick or that he might be sued if he tried and failed. In other cases, like vaccination, this rule is potentially harmful. It leads us to neglect things we could easily prevent, like disease and death. This has happened in whooping cough epidemics in England and Japan. If parents or pediatricians had questioned the do-no-harm intuition at the outset — asking whether they should just try to minimize children’s risk — then many of these deaths might have been avoided.

Some parents resist the DPT vaccine for their children even when they know that the total risk is lower with the vaccine than without it. They do not want to see themselves as the *cause* of harm to their children; better that the harm should come from “nature,” even if they could have

prevented it. Once people have made this judgment, however, they adjust their other beliefs to conform to it. They come to believe that vaccinating really *has* more risk than not vaccinating.¹ Although the original intuition was not based on consequences, people convince themselves that following it will always lead to the best results anyway. My main point here is that this is not true. Intuitive principles that are *not* based on consequences do not always produce the best consequences, and we should not be surprised by this.

The do-no-harm intuition also affects the decisions of judges and juries when people sue the makers of the vaccines for brain damage and other long-term effects. These consequences are awful, but so are the consequences of not making any vaccine at all. Yet drug companies do not get sued for the injuries caused by their failure to make a product. So pharmaceutical companies take these lawsuits into account when deciding to invest research and development resources into more, possibly risky vaccines versus yet another drug to lower cholesterol. The same intuitive rule makes people resist government policies that help many people while hurting a few.

Intuitions and Morality

Notice that bad results come from well-intentioned intuitions about what is right. These intuitions play some role in a great variety of human tragedies. Wars — both military and trade — result because citizens support the belligerent stance of their government against the immoral behavior of another nation. People oppose regulations or agreements that could protect the environment because these regulations seem to violate some principle, such as autonomy or the right to self-determination. As a result, they get results that they do not want.

This is a kind of paradox because many of the opinions in question are moral beliefs and judgments. The capacity to form and espouse moral beliefs is one of the wonderful features of humanity. People do not feel they are doing wrong when they act on these beliefs, but these beliefs repeatedly cause trouble.

The basic problem is that many of our beliefs, like the distinction we make between acts and omissions, do not concern consequences or results. We could try to follow just those principles that bring about the best results, but our principles are not designed this way. So we are constantly facing conflicts between the intuitive principles that we all follow and the results we all want.

The Costs of Expressing Intuitions

The problem is most serious when we can follow the principle without much risk of facing the consequences ourselves. In vaccination, for ex-

ample, the risk of the disease and the risk of a serious reaction to the vaccine are both very low. If we ourselves were faced with a choice between certain death from a disease (which we would get if we failed to vaccinate) or a fifty-fifty chance of death from the side effects of a vaccine, we would probably think harder about the consequences, and we would not worry so much about the intuitive distinction between acting (vaccinating) and not acting.

One area where the risks of facing the consequences seem low is our political behavior. This includes voting, speaking to each other, making contributions and working for causes, and other things we do to try to influence public policy. It is difficult to think about the consequences of this behavior because we see it two different ways. In one view, because so many other people affect the outcome, the contribution of each person's action to the overall outcome is tiny. Thinking about public issues, and acting on these thoughts, is "cheap." You don't have to pay for it by accepting the consequences of your mistakes. Even if your candidate for office turns out to be a disaster, you can console yourself by saying that your vote wouldn't have mattered. Even government officials and elected legislators may feel that their main task is to express their moral intuitions, for their vote is just one among many. Thus, the political sphere is one where intuitions tend to have free play.

In the other view, public action of many people — whether through voting, speaking, or doing a government job — affects so many people that the effect of everyone's behavior together is enormous. If a billion people together, through their political action, affect the outcome of a billion people (perhaps the same billion, perhaps not), then, on average, the effect of each person's action is just as noticeable as if that person were making a personal decision. Political action no longer seems so cheap when we take our effect on others into account. It may seem that voting is an exception here because each vote is rarely decisive; elections are hardly ever so close. Yet the margin of a vote is often important, aside from the outcome. The margin tells elected officials about the extent of their mandate and the actions that will make them popular, and it informs them and other candidates about prospects for the next election. Elected officials in modern democracies are, in general, highly sensitive to public opinion.

The same arguments apply to other expressions of political opinions and moral views, such as writing letters to representatives and newspapers, posting messages to news groups on the Internet, and just talking to people. These things ultimately have consequences. They are part of the total body of opinion that guides the behavior of nations and other institutions. In sum, we cannot ignore the potential consequences of our political action so long as we care about our effects on others. Yet the first view, that our voice has little effect, often encourages us to express our intuitions without even thinking about the consequences.

Our Acceptance of Intuitions

Some intuitive beliefs are held blindly. People do not know what gives them their authority, and often nothing does. This ignorance does nothing to weaken people's commitment. The abortion debate in the United States is a good example. One side thinks of the fetus as a human being with a right to life and protection of the law. The other side thinks that prohibition of abortion infringes on the rights of women to control their bodies. Extremists on both sides do not think that their views are amenable to argument or reason. Commitment flows from the strength of feeling, from a raw perception of rightness. People even pride themselves on the strength of their ability to resist reasoned arguments from the other side. Debates take the form of repeated assertions. Each side tries to wear down the other rather than to persuade it.

Part of the problem is that one particular intuition makes us believe more strongly in the others. This is the intuition, discussed later in more detail, that what is natural is good. We tend to see our intuitions as the product of some natural force that, in some sense, understands more than we do. It has a kind of authority, like the authority that religious leaders sometimes have, that allows it to make pronouncements to us, which we then accept without knowing fully the reasons for them, trusting that the reasons are there. I shall argue, however, that many of these intuitions arise in a much simpler way. They are the application of principles that *are* often consistent with bringing about good consequences but that are applied in cases where they do not do this. They are, in the language of psychology, overgeneralized.

My use of the term *intuitive* is meant to include both blind feelings and also more reflective beliefs. The term is meant only to capture the idea that the fundamental basis of these beliefs or principles is that they appeal to some judgment other than consequences.

Intuitions and Other Causes of Misfortune

Intuitive principles are surely not the only cause of human misfortune, even if we limit ourselves to human behavior as a cause. Bad events happen sometimes when individuals simply pursue their self-interest rationally. Financial markets crash when thousands of investors all try to get their money out of a falling market: the market crashes because everyone wants to sell and few want to buy. Other bad events result from the violation of moral standards that limit the pursuit of self-interest at the expense of others' interests. Some people seem to have very weak standards of morality to begin with, so they are easily swayed toward immoral behavior by the example of others or by a bit of benefit they might obtain. Some people knowingly violate their own standards of morality. Perhaps violent criminals do this, or soldiers who rape or tor-

ture their prisoners of war. Sometimes these violations result from social pressure, which itself results from other factors such as weak standards.

I certainly do not want to deny these other behavioral causes of harm. But they are the usual suspects when we talk about the human causes of human misfortune: self-interest, weakness of will, absence of self-restraint, lack of principles, and social pressure. We know about them already, and we have been trying to control them for centuries. Perhaps by working a little harder on a somewhat neglected cause of trouble — our intuitions — we can gain a kind of leverage over the human condition. Even if the effects of our intuitions are small in the grand scheme of things, we might get a handle on them more easily than we can on other causes of harm. And even a small benefit can help a lot when its effects are accumulated over great masses of people.

Moreover, our intuitions affect our ability to deal with the other causes of trouble. If, for example, we believe in the morality of retribution and in group responsibility for the acts of individuals, we may support excessive retaliation for clearly immoral acts against groups whose members were at fault, punishing the innocent along with the guilty, even though we know that such excesses will only lead to a cycle of escalating violence, as we have seen in the Middle East, the Balkans, Northern Ireland, Eastern and Central Africa, and India in recent years. Our beliefs in retribution and group responsibility are not the basic problem. But they exacerbate the original problem, making it worse than it would be if we took other goals into account, such as the goal of making a peace agreement.

In sum, intuitions may have only small effects on big outcomes, but they may also be more controllable than some of the other forces, especially because they have not been seen before as a source of trouble. Reducing the negative effects of intuitions might thus be a cost-effective way of improving the human condition. Such improvement gives us a kind of leverage. Although the effect is small, it is broad.

How Intuitions Play Out

Harmful intuitions show up even in situations where one would think that self-interest was paramount. Consider the decline of fisheries in the Atlantic Ocean off the coasts of New England and Canada. Between 1963 and 1993, the number of flounder, haddock, and cod declined by more than 90%, mainly as a result of overfishing. It took almost 10 years for effective regulations to be imposed. Now the regulations must be so drastic that some fish cannot be caught at all until the stocks come back. Thousands of people are out of work.

Part of the problem was that each person pursued his or her economic self-interest. It was not in anyone's interest to cut back fishing, regardless of what others were doing. But democratic mechanisms were

in place to impose limitations on fishing. Every time some regulation was proposed, many people thought that it was wrong, and they opposed it. The personal cost of supporting the regulation — or of assenting silently — would have been low, and almost all of the regulations would have been better for each person in the long run than no regulation at all. So we cannot explain this opposition in terms of the same simple self-interest that makes fishermen unwilling to cut back spontaneously. As I will argue in the next chapter, the fishermen opposed the regulations on the basis of their intuitions concerning personal autonomy and fairness, abetted by wishful thinking: that the decline in the fish population resulted from everything else aside from overfishing.

This pattern is repeated in a variety of social misfortunes examined in this book. People are gripped by some idea, a principle that has much to be said for it but that ignores some equally valid principle on the other side. On the basis of such principles, people commit themselves to one side of a debate. They want their side to be right, so they engage in wishful thinking to convince themselves that both the facts and the arguments support their view. They make up additional arguments on their side and fail to try to think of arguments on the other side. Some of the arguments they make are ones they would recognize as weak if they were not already committed to their positions.

Actively Open-minded Thinking

Intuitions can be useful when we correctly perceive them as *part* of the story rather than as the whole story. They become dangerous when we think in a way that protects whichever idea grips us first. How can we keep these intuitions in check? For a start, it may help to be *actively open-minded*, to put our initial view to the test by seeking evidence against it as well as evidence in its favor. It may also help to ask whether there are possible answers other than our own, and whether we are ignoring certain goals or values — even the values of others — that would make some alternative answer seem more reasonable. When we find alternatives or counterevidence, we must weigh it fairly. Of course, there may sometimes be no “other side,” or it may be so evil or foolish that we can dismiss it quickly. But if we are not open to it, we will never know. When large groups of people fail to think in a way that is actively open-minded, social discourse breaks down.

Actively open-minded thinking must often be quantitative. When good arguments are found on both sides of an issue, we must often find a way to compare the arguments quantitatively. In the DPT vaccination example that began this chapter, an argument for the vaccine is that it prevents disease and resulting death. An argument against is that it causes side effects, which may also result in death. A simple quantitative comparison is to count the resulting deaths from vaccinating or

from not vaccinating. A more complex quantitative comparison would take into account the severity and frequency of the symptoms and side effects other than death. This could be done informally, or formally by assigning numbers to everything. The important point is that we must be willing to think of decision making as a kind of balancing, with each argument put onto the scales and weighed.

Some Intuitions of Interest

I have suggested that intuitions can get us into trouble if we follow them blindly. So let us look at the most common ones that do this, intuitions that most of us apply frequently (and usually appropriately). The boundaries of each are fuzzy, some can be subdivided further, and some important ones are doubtless missing. But some list is probably better than no list. None of the intuitions in question is crazy or evil. That is the point. We all hold these, and most of the time they are reasonable or at least harmless compared to other ways of making decisions.

- *Do no harm.* We worry more about the harm we do through action than about the harm we do through failing to act.
- *The status-quo effect.* The burden of proof is on the side of changing the status quo. Those who want to keep the status quo do not need arguments.
- *Naturalism: Nature knows best.* It is wrong to go against nature. Of course, there is a valid point here: evolution set up a kind of order that can fail in surprising ways when we tamper with it. But we *do* tamper with it, and often we improve on it by doing so (e.g., with vaccines).
- *Autonomy and individual rights.* People should be allowed to make their own decisions, to control their own bodies, their own property, and so on. It is wrong to interfere, to coerce. A right is usually a protection of someone's autonomy in a certain domain, such as property or speech. In general, people do know what is best for them. Their autonomy should be protected in general and strongly protected in certain domains (such as free speech). But protections need not be absolute. Sometimes we can violate autonomy and be sure of doing more good than harm, as when we protect children from their own immature decisions.

These first four principles form a group because they often work together. Inaction tends to favor the status quo, which is often what is natural. Violations of autonomy often require active interference as well. The remaining principles concern distribution of benefits and burdens among different people or groups of people.

- *Group loyalty.* I should be loyal to groups I belong to, whether I chose them or not — my nation, my race, my religion, and so on. This principle is a kind of unselfishness because it obliges people to be concerned with others. But it sharply limits this concern, even to the point of supporting harm to outsiders, when groups compete. Again, there is a point here. We know our own groups best, but this has limits. Sociobiologists have called this phenomenon “tribalism” because it may be related to the fact that people evolved in tribes. Group loyalty may have other causes aside from biological ones, however, and even if some biological factor is at work, we might be able to redirect the biological drive toward the “tribe” of all people.
- *Retribution.* The idea of retribution is that we should retaliate in kind: “an eye for an eye.” Punishment has a role in deterring harmful behavior, but we exact retribution even when this role is not served. The tendency to seek retribution is particularly dangerous when combined with group loyalty and with our tendency to magnify the harms against our own group. As Gandhi put it, “An eye for an eye makes the whole world blind.”
- *Fairness.* Fairness is, of course, a good thing. The trouble is that we have so many different conceptions of what makes something fair: equality of opportunity; equality of results; equal benefit per person; equal benefit per dollar or per share; to each according to contribution; to each according to need; honoring prior contracts and rights; protecting the common good; and so on. Each principle of fairness can become a strong intuition. Often, people choose principles that favor themselves or their group.

Common Patterns

All of these intuitions are reasonable rules of thumb. Using them often leads to the best outcome, for good reason. For example, we should usually favor the status quo because we are not so good at anticipating the effects of changing it. Likewise, people usually know what’s good for them better than other people do, so autonomy is a good idea, other things being equal. And evolution has created a kind of purposive design for living systems, one that is best left undisturbed — again, other things being equal.

The intuitions cause trouble because we conduct our thinking as if they were more than this, in several ways.

1. *The intuitions become absolutes.* Instead of thinking of these principles as rules of thumb, we elevate them to the level of absolute constraints on action. The do-no-harm principle, for example, becomes an

absolute prohibition on hurting some people in order to help others, even when the help is great and the hurt is small. Thus, a trade agreement among nations, which will cause some workers to lose their jobs, may be rejected because of this, despite preventing many other people from losing jobs, as well as making more goods available at lower prices.

When absolutes conflict, compromise becomes more difficult. For example, a trade agreement involves economic benefits and increased autonomy on the one hand, but on the other, greater difficulty in enforcing environmental regulations (which are often challenged as restraints on trade). People who care about both the economy and the environment will be sensitive to the magnitude of each effect. Environmentalists who also care about economics might decide to accept the risks of a trade agreement because the environmental costs are small relative to the economic benefits. Other international environmental agreements might have great environmental benefits and small economic costs, and it would be better to work on getting these adopted rather than on opposing the trade agreement. When principles are held absolutely, compromise and logrolling are difficult. The end result is that, instead of either agreement, we end up with neither, and both economics and the environment may suffer.

The intuitive principles that people follow — autonomy, not going against nature, nationalism, preserving the status quo, etc. — are often good rules of thumb. In general, it is better to honor them than not to honor them. People usually know what is good for them, so autonomy leads to better decisions. Tampering with nature is risky. Citizens know more about what is needed in their own nation than in other nations. But these are rough guidelines — rules of thumb that are not always true. They become most problematic when people elevate these useful rules of thumb to inviolable principles, neglecting the big picture in favor of a small piece of it.

2. *Intuitions define aspiration levels.* Intuitive principles almost always define acceptable levels of some good. Once an acceptable level is defined, the principle obliges us not to fall below that level, but does not oblige us to rise above it. Thus, for example, we are obliged not to harm people through our actions, but we are not obliged to help people through our actions. The level of aspiration here is whatever results from doing nothing.

This sort of intuition is very strong. When I play tennis, I often open a can of tennis balls on the court. I feel a strong obligation to throw away the metal top to the can I just opened, rather than leaving it to litter the court. So I do this. But I often leave behind several tops left by others, which I could easily pick up and throw away. My intuitive sense says that I am obliged not to make the situation worse, but I am not obliged to improve it.

Such principles are convenient because they limit our obligations in our daily lives. If I felt just as obliged toward every lid, I would have no clear rule for stopping. I would have to judge, each time, whether the effort of picking up another lid was worthwhile. But the same intuition can be applied in matters of policy. If we are talking about governments regulating pollution instead of tennis players picking up their lids, we should ask how we can get the most pollution reduction for a given expenditure, and it may turn out that it is better to make companies clean up someone else's pollution rather than their own, regardless of our intuition to the contrary.

The status quo often defines an aspiration level. We are more upset about losing what we have than about failing to get what we do not have. Imagine the reaction if someone in the U.S. government proposed a new subsidy for tobacco growers. Yet the opposition to the current subsidies is so muted that nobody thinks they are threatened. Likewise, when a new law helps many people but hurts a few, relative to the status quo, we are reluctant to support the law because we take the harm more seriously than the gain. But if the law were already in effect, we would not want to repeal it because those who benefit from it would then be hurt.

In the vaccination case described earlier, the aspiration level is inaction, the result of doing nothing. (This is not the status quo because nobody is sick yet.) In other cases, the aspiration level is defined by some principle. One principle we shall see repeatedly is that of autonomy. Thus, interfering with autonomy is considered a great loss, although creating additional autonomy where it does not exist is seen as less important. Likewise, destruction of what is natural is particularly harmful, more so than failing to return something to its natural state. Finally, a distribution seen as fair can define an aspiration level. If it seems fair for two boys to get 10 peanuts each, and if one gets 12 and the other 8, then the 8 will be seen as a loss of 2, which will seem more serious than the gain of 2 for the other.

Once an aspiration level is defined, losses relative to it are taken more seriously than gains. This is called "loss aversion."²

3. *Wishful thinking.* People tend to believe what they want to believe, which is often determined by their immediate self-interest. Credit-card interest rates are extremely high compared to other rates for borrowing, and banks try hard to sell credit cards because this interest is so profitable for the banks — several times the profit they make on other activities. According to economic theory, the interest rates and the profit ought to come down because of competition. It seems that this does not happen, in part because card users tend to think that they will not borrow on their cards, so the high rates are irrelevant to them. Card holders do not even admit to themselves the amount of borrowing they are doing: they drastically underestimate the amount that they already owe.³