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Nudge  
*Improving Decisions About Health,  
Wealth and Happiness*



PENGUIN BOOKS

# I

## Biases and Blunders

Have a look, if you will, at these two tables:

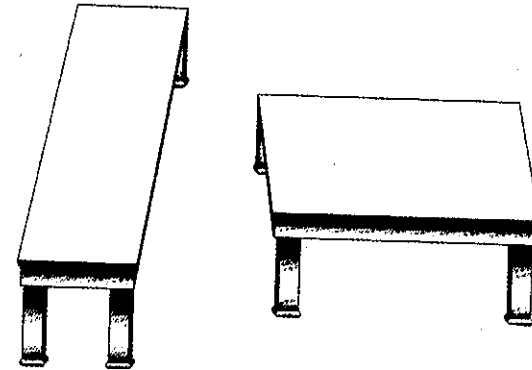


Figure 1.1. *Two tables (Adapted from Shepard [1990])*

Suppose that you are thinking about which one would work better as a coffee table in your living room. What would you say are the dimensions of the two tables? Take a guess at the ratio of the length to the width of each. Just eyeball it.

If you are like most people, you think that the table on the left is much longer and narrower than the one on the right. Typical guesses are that the ratio of the length to the width is 3:1 for the left table and 1.5:1 for the right table. Now take out a ruler and measure each table. You will find that the two table tops are identical. Measure them until you are convinced, because this is a case where seeing is not believing. (When Thaler showed this example to Sunstein at

their usual lunch haunt, Sunstein grabbed his chopstick to check.)

What should we conclude from this example? If you see the left table as longer and thinner than the right one, you are certifiably human. There is nothing wrong with you (well, at least not that we can detect from this test). Still, your judgment in this task was biased, and predictably so. No one thinks that the right table is thinner! Not only were you wrong; you were probably confident that you were right. If you like, you can put this visual to good use when you encounter others who are equally human and who are disposed to gamble away their money, say, at a bar.

Now consider Figure 1.2. Do these two shapes look the same or different? Again, if you are human, and have decent vision, you probably see these shapes as being identical, as they are. But these two shapes are just the table tops from Figure 1.1, removed from their legs and reoriented. Both the legs and the orientation facilitate the illusion that the table tops are different in Figure 1.1, so removing these distracters restores the visual system to its usual amazingly accurate state.\*



Figure 1.2. *Tabletops* (Adapted from Shepard [1990])

These two figures capture the key insight that behavioral economists have borrowed from psychologists. Normally the human mind works remarkably well. We can recognize people we have not seen in years, understand the complexities of our native language, and run

\* One of the tricks used in drawing these tables is that vertical lines look longer than horizontal lines.

down a flight of stairs without falling. Some of us can speak twelve languages, improve the fanciest computers, and/or create the theory of relativity. However, even Einstein would probably be fooled by those tables. That does not mean something is wrong with us as humans, but it does mean that our understanding of human behavior can be improved by appreciating how people systematically go wrong.

To obtain that understanding, we need to explore some aspects of human thinking. Knowing something about the visual system allowed Roger Shepard (1990), a psychologist and artist, to draw those deceptive tables. He knew what to draw to lead our mind astray. Knowing something about the cognitive system has allowed others to discover systematic biases in the way we think.

## HOW WE THINK: TWO SYSTEMS

The workings of the human brain are more than a bit befuddling. How can we be so ingenious at some tasks and so clueless at others? Beethoven wrote his incredible ninth symphony while he was deaf, but we would not be at all surprised if we learned that he often misplaced his house keys. How can people be simultaneously so smart and so dumb? Many psychologists and neuroscientists have been converging on a description of the brain's functioning that helps us make sense of these seeming contradictions. The approach involves a distinction between two kinds of thinking, one that is intuitive and automatic, and another that is reflective and rational.<sup>1</sup> We will call the first the Automatic System and the second the Reflective System. (In the psychology literature, these two systems are sometimes referred to as System 1 and System 2, respectively.) The key features of each system are shown in Table 1.1.

The Automatic System is rapid and is or feels instinctive, and it does not involve what we usually associate with the word *thinking*. When you duck because a ball is thrown at you unexpectedly, or get nervous when your airplane hits turbulence, or smile when you see a cute puppy, you are using your Automatic System. Brain scientists are

Table 1.1 *Two cognitive systems*

<i>Automatic System</i>	<i>Reflective System</i>
Uncontrolled	Controlled
Effortless	Effortful
Associative	Deductive
Fast	Slow
Unconscious	Self-aware
Skilled	Rule-following

able to say that the activities of the Automatic System are associated with the oldest parts of the brain, the parts we share with lizards (as well as puppies).<sup>2</sup>

The Reflective System is more deliberate and self-conscious. We use the Reflective System when we are asked, 'How much is 411 times 37?' Most people are also likely to use the Reflective System when deciding which route to take for a trip and whether to go to law school or business school. When we are writing this book we are (mostly) using our Reflective Systems, but sometimes ideas pop into our heads when we are in the shower or taking a walk and not thinking at all about the book, and these probably are coming from our Automatic Systems. (Voters, by the way, seem to rely primarily on their Automatic System.<sup>3</sup> A candidate who makes a bad first impression, or who tries to win votes by complex arguments and statistical demonstrations, may well run into trouble.)\*

Most of the world has an Automatic System reaction to a temperature given in Celsius but has to use their Reflective System to process a temperature given in Fahrenheit; for Americans, the opposite is true. People speak their native languages using their Automatic Systems and tend to struggle to speak another language using their

\* It is possible to predict the outcome of congressional elections with frightening accuracy simply by asking people to look quickly at pictures of the candidates and say which one looks more competent. These judgments, by students who did not know the candidates, forecast the winner of the election two-thirds of the time! (Toderov et al. [2005]; Benjamin and Shapiro [2007])

Reflective Systems. Being truly bilingual means that you speak two languages using the Automatic System. Accomplished chess players and professional athletes have pretty fancy intuitions; their Automatic Systems allow them to size up complex situations rapidly and to respond with both amazing accuracy and exceptional speed.

One way to think about all this is that the Automatic System is your gut reaction and the Reflective System is your conscious thought. Gut feelings can be quite accurate, but we often make mistakes because we rely too much on our Automatic System. The Automatic System says, 'The airplane is shaking, I'm going to die,' while the Reflective System responds, 'Planes are very safe!' The Automatic System says, 'That big dog is going to hurt me,' and the Reflective System replies, 'Most pets are quite sweet.' (In both cases, the Automatic System is squawking all the time.) The Automatic System starts out with no idea how to play golf or tennis. Note, however, that countless hours of practice enable an accomplished golfer to avoid reflection and to rely on her Automatic System – so much so that good golfers, like other good athletes, know the hazards of 'thinking too much' and might well do better to 'trust the gut,' or 'just do it.' The Automatic System can be trained with lots of repetition – but such training takes a lot of time and effort. One reason why teenagers are such risky drivers is that their Automatic Systems have not had much practice, and using the Reflective System is much slower.

To see how intuitive thinking works, try the following little test. For each of the three questions, begin by writing down the first answer that comes to your mind. Then pause to reflect.

1. A bat and ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost? \_\_\_\_ cents
2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? \_\_\_\_ minutes
3. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? \_\_\_\_ days

What were your initial answers? Most people say 10 cents, 100 minutes, and 24 days. But all these answers are wrong. If you think

for a minute, you will see why. If the ball costs 10 cents and the bat costs one dollar more than the ball, meaning \$1.10, then together they cost \$1.20, not \$1.10. No one who bothers to check whether his initial answer of 10 cents could possibly be right would give that as an answer, but research by Shane Frederick (2005) (who calls this series of questions the cognitive reflection test) finds that these are the most popular answers even among bright college students.

The correct answers are 5 cents, 5 minutes, and 47 days, but you knew that, or at least your Reflective System did if you bothered to consult it. Econs never make an important decision without checking with their Reflective Systems (if they have time). But Humans sometimes go with the answer the lizard inside is giving without pausing to think. If you are a television fan, think of Mr Spock of *Star Trek* fame as someone whose Reflective System is always in control. (Captain Kirk: 'You'd make a splendid computer, Mr Spock.' Mr Spock: 'That is very kind of you, Captain!') In contrast, Homer Simpson seems to have forgotten where he put his Reflective System. (In a commentary on gun control, Homer once replied to a gun store clerk who informed him of a mandatory five-day waiting period before buying a weapon, 'Five days? But I'm mad now!')

One of our major goals in this book is to see how the world might be made easier, or safer, for the Homers among us (and the Homer lurking somewhere in each of us). If people can rely on their Automatic Systems without getting into terrible trouble, their lives should be easier, better, and longer.

## RULES OF THUMB

Most of us are busy, our lives are complicated, and we can't spend all our time thinking and analyzing everything. When we have to make judgments, such as guessing Angelina Jolie's age or the distance between Cleveland and Philadelphia, we use simple rules of thumb to help us. We use rules of thumb because most of the time they are quick and useful.

In fact, there is a great collection edited by Tom Parker titled *Rules*

*of Thumb*. Parker wrote the book by asking friends to send him good rules of thumb. For example, 'One ostrich egg will serve 24 people for brunch.' 'Ten people will raise the temperature of an average size room by one degree per hour.' And one to which we will return: 'No more than 25 percent of the guests at a university dinner party can come from the economics department without spoiling the conversation.'

Although rules of thumb can be very helpful, their use can also lead to systematic biases. This insight, first developed decades ago by two Israeli psychologists, Amos Tversky and Daniel Kahneman (1974), has changed the way psychologists (and eventually economists) think about thinking. Their original work identified three heuristics, or rules of thumb – anchoring, availability, and representativeness – and the biases that are associated with each. Their research program has come to be known as the 'heuristics and biases' approach to the study of human judgment. More recently, psychologists have come to understand that these heuristics and biases emerge from the interplay between the Automatic System and the Reflective System. Let's see how.

## Anchoring

Suppose we are asked to guess the population of Milwaukee, a city about two hours north of Chicago, where we live. Neither of us knows much about Milwaukee, but we think that it is the biggest city in Wisconsin. How should we go about guessing? Well, one thing we could do is start with something we do know, which is the population of Chicago, roughly three million. So we might think, Milwaukee is a major city, but clearly not as big as Chicago, so, hmmm, maybe it is one-third the size, say one million. Now consider someone from Green Bay, Wisconsin, who is asked the same question. She also doesn't know the answer, but she does know that Green Bay has about one hundred thousand people and knows that Milwaukee is larger, so guesses, say, three times larger – three hundred thousand.

This process is called 'anchoring and adjustment.' You start with some anchor, the number you know, and adjust in the direction you

think is appropriate. So far, so good. The bias occurs because the adjustments are typically insufficient. Experiments repeatedly show that, in problems similar to our example, people from Chicago are likely to make a high guess (based on their high anchor) while those from Green Bay guess low (based on their low anchor). As it happens, Milwaukee has about 580,000 people.<sup>4</sup>

Even obviously irrelevant anchors creep into the decision-making process. Try this one yourself. Take the last three digits of your phone number and add two hundred. Write the number down. Now, when do you think Attila the Hun sacked Europe? Was it before or after that year? What is your best guess? (We will give you one hint: It was after the birth of Jesus.) Even if you do not know much about European history, you do know enough to know that whenever Attila did whatever he did, the date has nothing to do with your phone number. Still, when we conduct this experiment with our students, we get answers that are more than three hundred years later from students who start with high anchors rather than low ones. (The right answer is 411.)

Anchors can even influence how you think your life is going. In one experiment, college students were asked two questions: (a) How happy are you? (b) How often are you dating? When the two questions were asked in this order the correlation between the two questions was quite low (.11). But when the question order was reversed, so that the dating question was asked first, the correlation jumped to .62. Apparently, when prompted by the dating question, the students use what might be called the 'dating heuristic' to answer the question about how happy they are. 'Gee, I can't remember when I last had a date! I must be miserable.' Similar results can be obtained from married couples if the dating question is replaced by a love-making question.<sup>5</sup>

In the language of this book, anchors serve as nudges. We can influence the figure you will choose in a particular situation by ever-so-subtly suggesting a starting point for your thought process. When charities ask you for a donation, they typically offer you a range of options such as \$100, \$250, \$1,000, \$5,000, or 'other.' If the charity's fund-raisers have an idea of what they are doing, these

values are not picked at random, because the options influence the amount of money people decide to donate. People will give more if the options are \$100, \$250, \$1,000, and \$5,000, than if the options are \$50, \$75, \$100, and \$150.

In many domains, the evidence shows that, within reason, the more you ask for, the more you tend to get. Lawyers who sue cigarette companies often win astronomical amounts, in part because they have successfully induced juries to anchor on multimillion-dollar figures. Clever negotiators often get amazing deals for their clients by producing an opening offer that makes their adversary thrilled to pay half that very high amount.

### Availability

How much should you worry about hurricanes, nuclear power, terrorism, mad cow disease, alligator attacks, or avian flu? And how much care should you take in avoiding risks associated with each? What, exactly, should you do to prevent the kinds of dangers that you face in ordinary life?

In answering questions of this kind, most people use what is called the availability heuristic. They assess the likelihood of risks by asking how readily examples come to mind. If people can easily think of relevant examples, they are far more likely to be frightened and concerned than if they cannot. A risk that is familiar, like that associated with terrorism in the aftermath of 9/11, will be seen as more serious than a risk that is less familiar, like that associated with sunbathing or hotter summers. Homicides are more available than suicides, and so people tend to believe, wrongly, that more people die from homicide.

Accessibility and salience are closely related to availability, and they are important as well. If you have personally experienced a serious earthquake, you're more likely to believe that an earthquake is likely than if you read about it in a weekly magazine. Thus vivid and easily imagined causes of death (for example, tornadoes) often receive inflated estimates of probability, and less-vivid causes (for example, asthma attacks) receive low estimates, even if they occur

with a far greater frequency (here a factor of twenty). So, too, recent events have a greater impact on our behavior, and on our fears, than earlier ones. In all these highly available examples, the Automatic System is keenly aware of the risk (perhaps too keenly), without having to resort to any tables of boring statistics.

The availability heuristic helps to explain much risk-related behavior, including both public and private decisions to take precautions. Whether people buy insurance for natural disasters is greatly affected by recent experience.<sup>6</sup> In the aftermath of an earthquake, purchases of new earthquake insurance policies rise sharply – but purchases decline steadily from that point, as vivid memories recede. If floods have not occurred in the immediate past, people who live on floodplains are far less likely to purchase insurance. And people who know someone who has experienced a flood are more likely to buy flood insurance for themselves, regardless of the flood risk they actually face.

Biased assessments of risk can perversely influence how we prepare for and respond to crises, business choices, and the political process. When Internet stocks have done very well, people might well buy Internet stocks, even if by that point they've become a bad investment. Or suppose that people falsely think that some risks (a nuclear power accident) are high, whereas others (a stroke) are relatively low. Such misperceptions can affect policy, because governments are likely to allocate their resources in a way that fits with people's fears rather than in response to the most likely danger.

When 'availability bias' is at work, both private and public decisions may be improved if judgments can be nudged back in the direction of true probabilities. A good way to increase people's fear of a bad outcome is to remind them of a related incident in which things went wrong; a good way to increase people's confidence is to remind them of a similar situation in which everything worked out for the best. The pervasive problems are that easily remembered events may inflate people's probability judgments, and that if no such events come to mind, their judgments of likelihoods might be distorted downward.

## Representativeness

The third of the original three heuristics bears an unwieldy name: representativeness. Think of it as the similarity heuristic. The idea is that when asked to judge how likely it is that A belongs to category B, people (and especially their Automatic Systems) answer by asking themselves how similar A is to their image or stereotype of B (that is, how 'representative' A is of B). Like the other two heuristics we have discussed, this one is used because it often works. We think a 6-foot-8-inch African-American man is more likely to be a professional basketball player than a 5-foot-6-inch Jewish guy because there are lots of tall black basketball players and not many short Jewish ones (at least not these days). Stereotypes are sometimes right!

Again, biases can creep in when similarity and frequency diverge. The most famous demonstration of such biases involves the case of a hypothetical woman named Linda. In this experiment, subjects were told the following: 'Linda is thirty-one years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice and also participated in antinuclear demonstrations.' Then people were asked to rank, in order of the probability of their occurrence, eight possible futures for Linda. The two crucial answers were 'bank teller' and 'bank teller and active in the feminist movement.' Most people said that Linda was less likely to be a bank teller than to be a bank teller and active in the feminist movement.

This is an obvious logical mistake. It is, of course, not logically possible for any two events to be more likely than one of them alone. It just has to be the case that Linda is more likely to be a bank teller than a feminist bank teller, because all feminist bank tellers are bank tellers. The error stems from the use of the representativeness heuristic: Linda's description seems to match 'bank teller and active in the feminist movement' far better than 'bank teller.' As Stephen Jay Gould (1991) once observed, 'I know [the right answer], yet a little homunculus in my head continues to jump up and down, shouting at me – "But she can't just be a bank teller; read the description!"' Gould's homunculus is the Automatic System in action.

Use of the representativeness heuristic can cause serious misperceptions of patterns in everyday life. When events are determined by chance, such as a sequence of coin tosses, people expect the resulting string of heads and tails to be representative of what they think of as random. Unfortunately, people do not have accurate perceptions of what random sequences look like. When they see the outcomes of random processes, they often detect patterns that they think have great meaning but in fact are just due to chance. You might flip a coin three times, see it come up heads every time, and conclude that there is something funny about the coin. But the fact is that if you flip any coin a lot, it won't be so unusual to see three heads in a row. (Try it and you'll see. As a little test, Sunstein, having just finished this paragraph, flipped a regular penny three times – and got heads every time. He was amazed. He shouldn't have been.)

A less trivial example, from the Cornell psychologist Tom Gilovich (1991), comes from the experience of London residents during the German bombing campaigns of World War II. London newspapers published maps, such as the one shown in Figure 1.3, displaying the location of the strikes from German V-1 and V-2 missiles that landed in central London. As you can see, the pattern does not seem at all random. Bombs appear to be clustered around the River Thames and also in the northwest sector of the map. People in London expressed concern at the time because the pattern seemed to suggest that the Germans could aim their bombs with great precision. Some Londoners even speculated that the blank spaces were probably the neighborhoods where German spies lived. They were wrong. In fact the Germans could do no better than aim their bombs at central London and hope for the best. A detailed statistical analysis of the dispersion of the location of the bomb strikes determined that within London the distribution of bomb strikes was indeed random.

Still, the location of the bomb strikes does not *look* random. What is going on here? We often see patterns because we construct our informal tests only after looking at the evidence. The World War II example is an excellent illustration of this problem. Suppose we divide the map into quadrants, as in Figure 1.4a. If we then do a formal statistical test – or, for the less statistically inclined, just count the

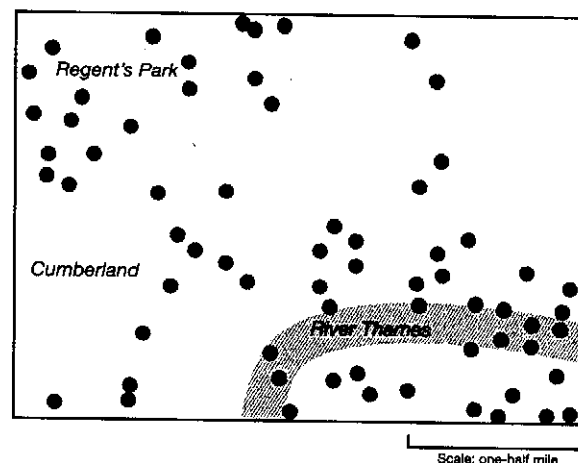


Figure 1.3. Map of London showing V-1 rocket strikes (Adapted from Gilovich [1991])

number of hits in each quadrant – we do find evidence of a non-random pattern. However, nothing in nature suggests that this is the right way to test for randomness. Suppose instead we form the quadrants diagonally as in Figure 1.4b. We are now unable to reject the hypothesis that the bombs land at random. Unfortunately, we do not subject our own perceptions to such rigorous alternative testing.

Gilovich (with colleagues Vallone and Tversky [1985]) is also responsible for perhaps the most famous (or infamous) example of misperception of randomness, namely the widely held view among basketball fans that there is a strong pattern of 'streak shooting.' We will not go into this in detail, because our experience tells us that the cognitive illusion here is so powerful that most people (influenced by their Automatic System) are unwilling even to consider the possibility that their strongly held beliefs might be wrong. But here is the short version. Most basketball fans think that a player is more likely to make his next shot if he has made his last shot, or even better, his last few shots. Players who have hit a few shots in a row, or even most of their recent shots, are said to have a 'hot hand,' which is taken by all sports announcers to be a good signal about the future. Passing the



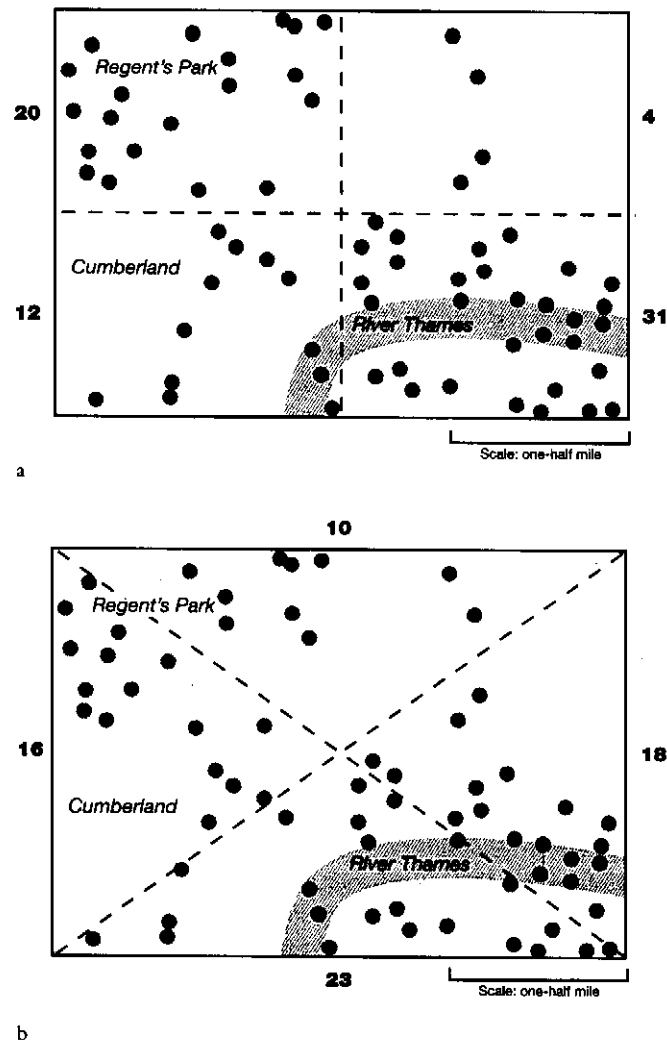


Figure 1.4. Map of London showing V-I rocket strikes, with vertical-horizonal grid (a) and diagonal grid (b). The figures outside the grid refer to the number of dots in the quadrant. (Adapted from Gilovich [1991])

ball to the player who is hot is taken to be an obvious bit of good strategy.

It turns out that the 'hot hand' is just a myth. Players who have made their last few shots are no more likely to make their next shot (actually a bit less likely). Really.

Once people are told these facts, they quickly start forming alternative versions of the hot-hand theory. Maybe the defense adjusts and guards the 'hot' player more closely. Maybe the hot player adjusts and starts taking harder shots. These are fine observations that need to be investigated. But notice that, before seeing the data, when fans were asked about actual shooting percentages after a series of made shots, they routinely subscribed to the hot-hand theory – no qualifiers were thought necessary. Many researchers have been so sure that the original Gilovich results were wrong that they set out to find the hot hand. To date, no one has found it.<sup>7</sup>

Jay Koehler and Caryn Conley (2003) performed a particularly clean test using the annual three-point shooting contest held at the National Basketball Association All-Star Game. In this contest, the players (among the best three-point shooters in the league) take a series of shots from behind the three-point shooting arc. Their goal is to make as many shots as possible in sixty seconds. Without any defense or alternative shots, this would seem to be an ideal situation in which to observe the hot hand. However, as in the original study, there was no evidence of any streakiness. This absence of streak shooting did not stop the announcers from detecting sudden temperature variations in the players. ('Johnson is hot!' 'Smith is on fire!') But these outbursts by the announcers had no predictive power. Before the announcers spoke of hotness, the players had made 80.5 percent of their three previous shots. After the hotness pronouncements, players made only 55.2 percent – not significantly better than their overall shooting percentage in the contest, 53.9 percent.

Of course, it is no great problem if basketball fans are confused about what they see when they are watching games on television. But the same cognitive biases occur in other, more weighty domains. Consider the phenomenon of 'cancer clusters.' These can cause a great deal of private and public consternation, and they often attract

sustained investigations, designed to see what on earth (or elsewhere) could possibly have caused a sudden and otherwise inexplicable outbreak of cancer cases. Suppose that in a particular neighborhood we find an apparently elevated cancer rate – maybe ten people, in a group of five hundred, have been diagnosed with cancer within the same six-month period. Maybe all ten people live within three blocks of one another. And in fact, American officials receive reports of more than one thousand suspected cancer clusters every year, with many of these suspected clusters investigated further for a possible ‘epidemic.’<sup>8</sup>

The problem is that in a population of three hundred million, it is inevitable that certain neighborhoods will see unusually high cancer rates within any one-year period. The resulting ‘cancer clusters’ may be products of random fluctuations. Nonetheless, people insist that they could not possibly occur by chance. They get scared, and sometimes government wrongly intervenes on their behalf. Mostly, though, there is thankfully nothing to worry about, except for the fact that the use of the representativeness heuristic can cause people to confuse random fluctuations with causal patterns.

### OPTIMISM AND OVERCONFIDENCE

Before the start of Thaler’s class in Managerial Decision Making, students fill out an anonymous survey on the course Web site. One of the questions is ‘In which decile do you expect to fall in the distribution of grades in this class?’ Students can check the top 10 percent, the second 10 percent, and so forth. Since these are MBA students, they are presumably well aware that in any distribution, half the population will be in the top 50 percent and half in the bottom. And only 10 percent of the class can, in fact, end up in the top decile.

Nevertheless, the results of this survey reveal a high degree of unrealistic optimism about performance in the class. Typically less than 5 percent of the class expects their performance to be below the median (the 50th percentile) and more than half the class expects to perform in one of the top two deciles. Invariably, the largest group of

students put themselves in the second decile. We think this is most likely explained by modesty. They really think they will end up in the top decile, but are too modest to say so.

MBA students are not the only ones overconfident about their abilities. The ‘above average’ effect is pervasive. Ninety percent of all drivers think they are above average behind the wheel, even if they don’t live in Lake Wobegon. And nearly everyone (including some who are rarely seen smiling) thinks he has an above-average sense of humor. (That is because they know what is funny!) This applies to professors, too. About 94 percent of professors at a large university were found to believe that they are better than the average professor, and there is every reason to think that such overconfidence applies to professors in general.<sup>9</sup> (Yes, we admit to this particular failing.)

People are unrealistically optimistic even when the stakes are high. About 50 percent of marriages end in divorce, and this is a statistic most people have heard. But around the time of the ceremony, almost all couples believe that there is approximately a zero percent chance that their marriage will end in divorce – even those who have already been divorced!<sup>10</sup> (Second marriage, Samuel Johnson once quipped, ‘is the triumph of hope over experience.’) A similar point applies to entrepreneurs starting new businesses, where the failure rate is at least 50 percent. In one survey of people starting new businesses (typically small businesses, such as contracting firms, restaurants, and salons), respondents were asked two questions: (a) What do you think is the chance of success for a typical business like yours? (b) What is your chance of success? The most common answers to these questions were 50 percent and 90 percent, respectively, and many said 100 percent to the second question.<sup>11</sup>

Unrealistic optimism can explain a lot of individual risk taking, especially in the domain of risks to life and health. Asked to envision their future, students typically say that they are far less likely than their classmates to be fired from a job, to have a heart attack or get cancer, to be divorced after a few years of marriage, or to have a drinking problem. Gay men systematically underestimate the chance that they will contract AIDS, even though they know about AIDS risks in general. Older people underestimate the likelihood that they

will be in a car accident or suffer major diseases. Smokers are aware of the statistical risks, and often even exaggerate them, but most believe that they are less likely to be diagnosed with lung cancer and heart disease than most nonsmokers. Lotteries are successful partly because of unrealistic optimism.<sup>12</sup>

Unrealistic optimism is a pervasive feature of human life; it characterizes most people in most social categories. When they overestimate their personal immunity from harm, people may fail to take sensible preventive steps. If people are running risks because of unrealistic optimism, they might be able to benefit from a nudge. In fact, we have already mentioned one possibility: if people are reminded of a bad event, they may not continue to be so optimistic.

### GAINS AND LOSSES

People hate losses (and their Automatic Systems can get pretty emotional about them). Roughly speaking, losing something makes you twice as miserable as gaining the same thing makes you happy. In more technical language, people are 'loss averse.' How do we know this?

Consider a simple experiment.<sup>13</sup> Half the students in a class are given coffee mugs with the insignia of their home university embossed on it. The students who do not get a mug are asked to examine their neighbor's mugs. Then mug owners are invited to sell their mugs and nonowners are invited to buy them. They do so by answering the question 'At each of the following prices, indicate whether you would be willing to (give up your mug/buy a mug).' The results show that those with mugs demand roughly twice as much to give up their mugs as others are willing to pay to get one. Thousands of mugs have been used in dozens of replications of this experiment, but the results are nearly always the same. Once I have a mug, I don't want to give it up. But if I don't have one, I don't feel an urgent need to buy one. What this means is that people do not assign specific values to objects. When they have to give something up, they are hurt more than they are pleased if they acquire the very same thing.

It is also possible to measure loss aversion with gambles. Suppose I ask you whether you want to make a bet. Heads you win \$X, tails you lose \$100. How much does X have to be for you to take the bet? For most people, the answer to this question is somewhere around \$200. This implies that the prospect of winning \$200 just offsets the prospect of losing \$100.

Loss aversion helps produce inertia, meaning a strong desire to stick with your current holdings. If you are reluctant to give up what you have because you do not want to incur losses, then you will turn down trades you might have otherwise made. In another experiment, half the students in a class received coffee mugs (of course) and half got large chocolate bars. The mugs and the chocolate cost about the same, and in pretests students were as likely to choose one as the other. Yet when offered the opportunity to switch from a mug to a candy bar or vice versa, only one in ten switched.

As we will see, loss aversion operates as a kind of cognitive nudge, pressing us not to make changes, even when changes are very much in our interests.

### STATUS QUO BIAS

Loss aversion is not the only reason for inertia. For lots of reasons, people have a more general tendency to stick with their current situation. This phenomenon, which William Samuelson and Richard Zeckhauser (1988) have dubbed the 'status quo bias,' has been demonstrated in numerous situations. Most teachers know that students tend to sit in the same seats in class, even without a seating chart. But status quo bias can occur even when the stakes are much larger, and it can get us into a lot of trouble.

For example, in retirement savings plans most participants pick an asset allocation and then forget about it. In one study conducted in the late 1980s among participants in the pension plan of many college professors in the United States, the median number of changes in the asset allocation over a lifetime was, believe it or not, zero. In other words, over the course of their careers, more than half of the

participants made exactly no changes to the way their contributions were being allocated. Perhaps even more telling, many married participants who were single when they joined the plan still have their mothers listed as their beneficiaries!

Status quo bias is easily exploited. Many years ago American Express wrote Sunstein a cheerful letter telling him that he could receive, for free, three-month subscriptions to five magazines of his choice. Free subscriptions seem like a bargain, even if the magazines rarely get read, so Sunstein happily made his choices. What he didn't realize was that unless he took some action to cancel his subscription, he would continue to receive the magazines, paying for them at the normal rate. For about a decade, he has continued to subscribe to magazines that he hardly ever reads. (He keeps intending to cancel those subscriptions, but somehow never gets around to it. We hope to get around to discussing procrastination in the next chapter.)

One of the causes of status quo bias is a lack of attention. Many people adopt what we will call the 'yeah, whatever' heuristic. A good illustration is the carryover effect in television viewing. Network executives spend a lot of time working on scheduling because they know that a viewer who starts the evening on NBC tends to stay there. Since remote controls have been pervasive in this country for decades, the actual 'switching' costs in this context are literally one thumb press. But when one show ends and the next one comes on, a surprisingly high number of viewers (implicitly) say, 'yeah, whatever' and keep watching. Nor is Sunstein the only victim of automatic renewal of magazine subscriptions. Those who are in charge of circulation know that when renewal is automatic, and when people have to make a phone call to cancel, the likelihood of renewal is much higher than it is when people have to indicate that they actually want to continue to receive the magazine.

The combination of loss aversion with mindless choosing implies that if an option is designated as the 'default,' it will attract a large market share. Default options thus act as powerful nudges. In many contexts defaults have some extra nudging power because consumers may feel, rightly or wrongly, that default options come with an implicit endorsement from the default setter, be it the employer,

government, or TV scheduler. For this and other reasons, setting the best possible defaults will be a theme we explore often in the course of this book.

## FRAMING

Suppose that you are suffering from serious heart disease and that your doctor proposes a grueling operation. You're understandably curious about the odds. The doctor says, 'Of one hundred patients who have this operation, ninety are alive after five years.' What will you do? If we fill in the facts in a certain way, the doctor's statement will be pretty comforting, and you'll probably have the operation.

But suppose the doctor frames his answer in a somewhat different way. Suppose that he says, 'Of one hundred patients who have this operation, ten are dead after five years.' If you're like most people, the doctor's statement will sound pretty alarming, and you might not have the operation. The Automatic System thinks: 'A significant number of people are dead, and I might be one of them!' In numerous experiments, people react very differently to the information that 'ninety of one hundred are alive' than to the information that 'ten of one hundred are dead' – even though the content of the two statements is exactly the same. Even experts are subject to framing effects. When doctors are told that 'ninety of one hundred are alive,' they are more likely to recommend the operation than if told that 'ten of one hundred are dead.'<sup>14</sup>

Framing matters in many domains. When credit cards started to become popular forms of payment in the 1970s, some retail merchants wanted to charge different prices to their cash and credit card customers. (Credit card companies typically charge retailers 1 percent of each sale.) To prevent this, credit card companies adopted rules that forbade their retailers from charging different prices to cash and credit customers. However, when a bill was introduced in Congress to outlaw such rules, the credit card lobby turned its attention to language. Its preference was that if a company

charged different prices to cash and credit customers, the credit price should be considered the 'normal' (default) price and the cash price a discount – rather than the alternative of making the cash price the usual price and charging a surcharge to credit card customers.

The credit card companies had a good intuitive understanding of what psychologists would come to call 'framing.' The idea is that choices depend, in part, on the way in which problems are stated. The point matters a great deal for public policy. Energy conservation is now receiving a lot of attention, so consider the following information campaigns: (a) If you use energy conservation methods, you will save \$350 per year; (b) If you do not use energy conservation methods, you will lose \$350 per year. It turns out that information campaign (b), framed in terms of losses, is far more effective than information campaign (a). If the government wants to encourage energy conservation, option (b) is a stronger nudge.

Framing works because people tend to be somewhat mindless, passive decision makers. Their Reflective System does not do the work that would be required to check and see whether reframing the questions would produce a different answer. One reason they don't do this is that they wouldn't know what to make of the contradiction. This implies that frames are powerful nudges, and must be selected with caution.

## SO WHAT?

Our goal in this chapter has been to offer a brief glimpse at human fallibility. The picture that emerges is one of busy people trying to cope in a complex world in which they cannot afford to think deeply about every choice they have to make. People adopt sensible rules of thumb that sometimes lead them astray. Because they are busy and have limited attention, they accept questions as posed rather than trying to determine whether their answers would vary under alternative formulations. The bottom line, from our point of view, is that people are, shall we say, nudge-able. Their choices, even in life's most important decisions, are influenced in ways that would not be

anticipated in a standard economic framework. Here is one final example to illustrate.

One of the most scenic urban thoroughfares in the world is Chicago's Lake Shore Drive, which hugs the Lake Michigan coastline that is the city's eastern boundary. The drive offers stunning views of Chicago's magnificent skyline. There is one stretch of this road that puts drivers through a series of S curves. These curves are dangerous. Many drivers fail to take heed of the reduced speed limit (25 mph) and wipe out. Recently, the city has employed a new way of encouraging drivers to slow down.

At the beginning of the dangerous curve, drivers encounter a sign painted on the road warning of the lower speed limit, and then a series of white stripes painted onto the road. The stripes do not provide much if any tactile information (they are not speed bumps) but rather just send a visual signal to drivers. When the stripes first appear, they are evenly spaced, but as drivers reach the most dangerous portion of the curve, the stripes get closer together, giving the sensation that driving speed is increasing (see Figure 1.5). One's natural instinct is to slow down. When we drive on this familiar stretch of road, we find that those lines are speaking to us, gently urging us to touch the brake before the apex of the curve. We have been nudged.

cooperative, and less generous.<sup>25</sup> Smells matter too: mere exposure to the scent of an all-purpose cleaner makes people keep their environment cleaner while they eat.<sup>26</sup> In both cases, people were not consciously aware of the effect of the cue on their behavior. Or consider this one: people's judgments about strangers are affected by whether they are drinking iced coffee or hot coffee! Those given iced coffee are more likely to see other people as more selfish, less sociable, and, well, colder than those who are given hot coffee.<sup>27</sup> This, too, happens quite unconsciously.

The three social influences that we have emphasized – information, peer pressure, and priming – can easily be enlisted by private and public nudgers. As we will see, both business and governments can use the power of social influence to promote many good (and bad) causes.

## 4

## When Do We Need a Nudge?

We have seen that people perform amazing feats but also commit ditzy blunders. What's the best response? Choice architecture and its effects cannot be avoided, and so the short answer is an obvious one, call it the golden rule of libertarian paternalism: offer nudges that are most likely to help and least likely to inflict harm.\* A slightly longer answer is that people will need nudges for decisions that are difficult and rare, for which they do not get prompt feedback, and when they have trouble translating aspects of the situation into terms that they can easily understand.

In this chapter we try to put some flesh on these points. We begin by specifying the kinds of situations in which people are least likely to make good choices. We then turn to questions about the potential magic of markets and ask whether and when free markets and open competition will tend to exacerbate rather than mitigate the effects of human frailty. The key point here is that for all their virtues, markets often give companies a strong incentive to cater to (and profit from) human frailties, rather than to try to eradicate them or to minimize their effects.

\* Camerer et al. (2003) call for 'asymmetric paternalism,' which they define as taking steps to help the least sophisticated people while imposing minimal harm on everyone else. Our golden rule is in the spirit of their formulation.

## FRAUGHT CHOICES

Suppose you are told that a group of people will have to make some choice in the near future. You are the choice architect. You are trying to decide how to design the choice environment, what kinds of nudges to offer, and how subtle the nudges should be. What do you need to know to design the best possible choice environment?

## Benefits Now – Costs Later

We have seen that predictable problems arise when people must make decisions that test their capacity for self-control. Many choices in life, such as whether to wear a blue shirt or a white one, lack important self-control elements. Self-control issues are most likely to arise when choices and their consequences are separated in time. At one extreme are what might be called investment goods, such as exercise, flossing, and dieting. For these goods the costs are borne immediately, but the benefits are delayed. For investment goods, most people err on the side of doing too little. Although there are some exercise nuts and flossing freaks, it seems safe to say that not many people are resolving on New Year's Eve to floss less next year and to stop using the exercise bike so much.

At the other extreme are what might be called sinful goods: smoking, alcohol, and jumbo chocolate doughnuts are in this category. We get the pleasure now and suffer the consequences later. Again we can use the New Year's resolution test: how many people vow to smoke more cigarettes, drink more martinis, or have more chocolate doughnuts in the morning next year? Both investment goods and sinful goods are prime candidates for nudges. Most (nonanorexic) people do not need any special encouragement to eat another brownie, but they could use some help exercising more.

## Degree of Difficulty

Nearly everyone over the age of six can tie shoelaces, play a respectable game of tic-tac-toe, and spell the word *cat*. But only a few of us can tie a decent bow tie, play a masterly game of chess, or spell (much less pronounce) the name of the psychologist Mihály Csikszentmihályi. Of course, we learn to cope with the harder problems. We can buy a pretied bow tie, read a book about chess, and look up the spelling of Csikszentmihályi on the Web (then copy and paste every time we have to use the name). We use spell checkers and spreadsheets to help with harder problems. But many problems in life are quite difficult, and often there is no technology as easy as a spell checker available to help. We are more likely to need more help picking the right mortgage than choosing the right loaf of bread.

## Frequency

Even hard problems become easier with practice. Both of us have managed to learn how to serve a tennis ball into the service court with reasonable regularity (and in Sunstein's case, even velocity), but it took some time. The first time people try to execute this motion, they are lucky if the ball goes over the net, much less into the service box. Practice makes perfect (or at least better).

Unfortunately, some of life's most important decisions do not come with many opportunities to practice. Most students choose a college only once. Outside of Hollywood, most of us choose a spouse, well, not more than two or three times. Few of us get to try many different careers. And outside of science fiction, we get one chance to save for retirement (though we can make some adjustments along the way). Generally, the higher the stakes, the less often we are able to practice. Most of us buy houses and cars not more than once or twice a decade, but we are really practiced at grocery shopping. Most families have mastered the art of milk inventory control, not by solving the relevant mathematical equation but through trial and error.\*

\* There is a deep irony here. Many economists have dismissed psychology experiments on the grounds that the experiments are only for 'low stakes' and that people

None of this is to say that the government should be telling people whom to marry or what to study. This is a book about *libertarian* paternalism. At this stage we just want to stress that rare, difficult choices are good candidates for nudges.

### Feedback

Even practice does not make perfect if people lack good opportunities for learning. Learning is most likely if people get immediate, clear feedback after each try. Suppose you are practicing your putting skills on the practice green. If you hit ten balls toward the same hole, it is easy to get a sense of how hard you have to hit the ball. Even the least talented golfers will soon learn to gauge distance under these circumstances. Suppose instead you were putting the golf balls but not getting to see where they were going. In that environment, you could putt all day and never get any better.

Alas, many of life's choices are like practicing putting without being able to see where the balls end up, and for one simple reason: the situation is not structured to provide good feedback. For example, we usually get feedback only on the options we select, not the ones we reject. Unless people go out of their way to experiment, they may never learn about alternatives to the familiar ones. If you take the long route home every night, you may never learn there is a shorter one. Long-term processes rarely provide good feedback.

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are often not given sufficient opportunities to learn. These economists argue that if the stakes were raised, and subjects were given practice trials, then people would 'get it right.' There are at least two problems with this argument. First, there is little evidence that performance improves when the stakes go up. To a first approximation, the stakes just don't seem to matter much (see Camerer and Hogarth, 1999). Second, and more important, economics is supposed to help explain life's big decisions, and these are the decisions that come without many practice trials. There might be a lower divorce rate if people had several 'practice marriages' in their twenties and thirties before settling down to the real thing (though we are not confident about that prediction), but the fact is that in real life choosing a life partner is hard and people often fail. Similarly, there might be fewer philosophy Ph.D.s driving cabs if choices about graduate school came with practice trials, but at age thirty-five it is hard to ask for a 'do-over.'

Someone can eat a high-fat diet for years without having any warning signs until the heart attack. When feedback does not work, we may benefit from a nudge.

### Knowing What You Like

Most of us have a good sense of whether we prefer coffee ice cream to vanilla, Frank Sinatra to Bob Dylan, and mysteries to science fiction. These are examples for which we have had the time to sample the alternatives and learn about our tastes. But suppose that you have to forecast your preferences for the unfamiliar, such as when dining for the first time in a country with an exotic cuisine. Smart tourists often rely on others (waiters, for example) for help: 'Most foreigners like x and hate y.' Even in less exotic locales, it can be smart to let someone else choose for you. Two of the best restaurants in Chicago (Alinea and Charlie Trotter's) give their diners the fewest choices. At Alinea diners just decide whether they want fifteen very small plates or twenty-five tiny ones. At Charlie Trotter's, the diner is asked only whether to limit the dining to vegetables or not. (In both, one is asked about dietary restrictions and allergies.) The benefit of having so little choice is that the chef is authorized to cook you things you would never have thought to order.

It is particularly hard for people to make good decisions when they have trouble translating the choices they face into the experiences they will have. A simple example is ordering a dish from a menu in a language you do not understand. But even when you do know the meaning of the words being used, you may not be able to translate the alternatives you are considering into terms that make the slightest sense to you.

Take the problem of choosing a mutual fund for your retirement portfolio. Most investors (including us) would have trouble knowing how to compare a 'capital appreciation' fund with a 'dynamic dividend' fund, and even if the use of those words were made comprehensible, the problem would not be solved. What an investor needs to know is how a choice between those funds affects her spending power during retirement under various scenarios – something even an expert



armed with a good software package and complete knowledge of the portfolios held by each fund can have trouble analyzing. The same problem arises for the choice among health plans; we may have little understanding of the effects of our selection. If your daughter gets a rare disease, will she be able to see a good specialist? How long will she have to wait in line? When people have a hard time predicting how their choices will end up affecting their lives, they have less to gain by numerous options and perhaps even by choosing for themselves. A nudge might be welcomed.

### MARKETS: A MIXED VERDICT

The discussion thus far suggests that people may most need a good nudge for choices that have delayed effects; those that are difficult, infrequent, and offer poor feedback; and those for which the relation between choice and experience is ambiguous. A natural question is whether free markets can solve people's problems, even under such circumstances. Often market competition will do a lot of good. But in some cases, companies have a strong incentive to cater to people's frailties and to exploit them.

Notice first that many insurance products have all of the fraught features that we have sketched. The benefits from holding the insurance are delayed, the probability of having a claim is hard to analyze, consumers do not get useful feedback on whether they are getting a good return on their insurance purchases, and the mapping from what they are buying to what they are getting can be ambiguous. But the insurance market is competitive, so a natural question to ask is whether market forces can be relied upon to 'solve' the problem of fraught choices.

Let's imagine two different worlds. In one world, Econworld, all the consumers are Econs and they have no problem with difficult choices. All quantitative decisions, including insurance purchases, are a piece of cake for them. (Econs are part actuary.) The other world is called Humanworld, and in this world some of the consumers are Humans, who have all the features that generally characterize

the tribe, while the rest are Econs. In both worlds, there are well-functioning markets and at least some perfectly rational firms that have hired Econs as managers. The key question is whether the insurance purchases in Humanworld will be the same as the ones in Econworld. In other words, do well-functioning markets render the humanness of the Humans irrelevant?

To analyze this question, let's start with a simple example inspired by a wonderful poem by Shel Silverstein (1974) entitled 'Smart.' The poem is fun as well as brilliant, so if you have a computer nearby, we suggest that you type 'Smart' and 'Shel Silverstein' into Google and read the poem now.\* We will wait for you to get back before continuing.

For those of you reading this on a plane (or too lazy to get up out of bed), the poem's tale is simple. The child narrator explains that his father gave him a dollar bill, which he wisely traded for two quarters because he (unlike his dumb trading partners) knows that two is more than one. He continues trading – the two quarters for three dimes; three dimes for four nickels; and finally four nickels for five pennies. Eventually the son comes back to his father to report on his series of brilliant trades. When he does so, he reports that his father was 'too proud of [him] to speak.'

Suppose that some Humans in a well-functioning market economy prefer two quarters to one dollar because two is more than one. What happens to these quarter lovers? Are they harmed? And do they influence market prices? The answers to these questions depend a bit on how dumb the quarter lovers are, but let's suppose that while they prefer two quarters to one dollar, they still prefer more quarters to fewer quarters (since they love quarters). That means that while they would, in principle, be willing to trade two quarters for a dollar, they won't have to do that, because banks (among others) will compete

\* Silverstein had personally given Thaler permission to use the poem in an academic paper published in 1985 – he said he was tickled to see his work appear in the *American Economic Review* – but the poem is now controlled by his estate, which, after several nudges (otherwise known as desperate pleas), has denied us permission to reprint the poem here. Since we would have been happy to pay royalties, unlike the Web sites you will find via Google, we can only guess that the managers of the estate (to paraphrase the poem) don't know that some is more than none.

for their business, and will be happy to give them four quarters for each dollar. Of course the quarter lovers will think they are getting a great deal on this trade, but as long as there is competition in the provision of quarters, quarters will still sell for twenty-five cents and the irrational love of quarters will be essentially harmless to those who have this affliction.

The example is obviously an extreme one, but many markets are not so different from this situation. Most of the time, competition ensures that price serves as a good signal of quality. Usually (but not always) the fifty-dollar bottles of wine are better than the twenty-dollar bottles. And irrational consumers will not alter the market as long as they do not predominate. So if some people choose wine by how much they like the label, they will not be harmed, but if many people start to do that, then wine with attractive labels will be overpriced.

For irrational consumers to be protected there has to be competition. Sometimes that competition does not exist. Consider the case of extended warranties on small appliances, typically a bad deal for consumers. To take a specific hypothetical example, suppose that a cell phone costs two hundred dollars. The cell phone has a free warranty for the first year, but the cell phone company offers, for twenty dollars, an extended warranty for the second year of the phone's life. After that the consumer plans to buy a new phone. Suppose that the chance that the phone will break during the second year is 1 percent, so on average consumers will get two dollars' worth of benefits from having this policy – but the price of the extended warranty is twenty dollars in order to include a normal profit to the insurer and a kickback (er, commission) to the salesperson at the cell phone store.

Of course, Econs understand all this and thus do not purchase extended warranties. But Humans want extended warranties, perhaps because the salesman offers the 'friendly' advice that the extended warranty is a good idea, or perhaps because they mistakenly think that cell phones break 15 percent of the time rather than 1 percent, or perhaps because they just think that it's 'better to be safe than sorry.'

What happens? Do market forces drive these unduly expensive

extended warranties from the market? Or does competition drive the price of the extended warranties down to two dollars, the expected value of the claims? The answers to these questions are no and no. (Before we explain, notice that extended warranties are plentiful in the real world and that many people buy them. Hint: Don't.)\*

On our assumptions, the extended warranty is a product that simply should not exist. If Humans realized that they were paying twenty dollars for two dollars' worth of insurance, they would not buy the insurance. But if they do not realize this, markets cannot and will not unravel the situation. Competition will not drive the price down, in part because it takes the salesperson a while to persuade someone to pay twenty dollars for two dollars' worth of insurance, and in part because it is difficult for third parties to enter this market efficiently. You might think that firms could educate people not to buy the warranty, and indeed they might. But why should firms do that? If you are buying something that you shouldn't, how do I make any money persuading you not to buy it?

There is a general point here. If consumers have a less than fully rational belief, firms often have more incentive to cater to that belief than to eradicate it. When many people were still afraid of flying, it was common to see airline flight insurance sold at airports at exorbitant prices. There were no booths in airports selling people advice not to buy such insurance.

In many markets, firms will be competing for the same consumers but will be offering products that are not merely different but that directly oppose each other. Some firms sell cigarettes; others sell products that help you quit smoking. Some firms sell fast food; others sell diet advice. If all consumers are Econs, then there is no reason to worry about which of these competing interests wins. But if some of the consumers are Humans who sometimes make bad choices (as judged by themselves, of course), then all of us may have an interest

\* Consider the Simpsons episode in which Homer has a crayon hammered into his nose to lower his IQ. (Don't ask.) The writers illustrate the lowering of Homer's IQ by having Homer make ever-stupider statements. The surgeon knows the operation is complete when Homer finally exclaims: 'Extended warranty! How can I lose?' (Thanks to Matthew Rabin for this tidbit.)

in which set of firms wins the battle. Government can, of course, outlaw some kinds of activities, but as libertarian paternalists we prefer to nudge – and we are keenly aware that governments are populated by Humans.

What can be done to help? In the next chapter we describe our primary tool: choice architecture.

## 5

## Choice Architecture

Early in Thaler's career, he was teaching a class on managerial decision making to business school students. Students would sometimes leave class early to go for job interviews (or a golf game) and would try to sneak out of the room as surreptitiously as possible. Unfortunately for them, the only way out of the room was through a large double door in the front, in full view of the entire class (though not directly in Thaler's line of sight). The doors were equipped with large, handsome wood handles, vertically mounted cylindrical pulls about two feet in length. When the students came to these doors, they were faced with two competing instincts. One instinct says that to leave a room you push the door. The other instinct says, when faced with large wooden handles that are obviously designed to be grabbed, you pull. It turns out that the latter instinct trumps the former, and every student leaving the room began by pulling on the handle. Alas, the door opened outward.

At one point in the semester, Thaler pointed this out to the class, as one embarrassed student was pulling on the door handle while trying to escape the classroom. Thereafter, as a student got up to leave, the rest of the class would eagerly wait to see whether the student would push or pull. Amazingly, most still pulled! Their Automatic Systems triumphed; the signal emitted by that big wooden handle simply could not be screened out. (And when Thaler would leave that room on other occasions, he sheepishly found himself pulling too.)

Those doors are bad architecture because they violate a simple psychological principle with a fancy name: stimulus response compatibility. The idea is that you want the signal you receive (the

REALLY AND TRULY WANT TO SEND IT?' (Software already exists to detect foul language. What we are proposing is more subtle, because it is easy to send a really awful email message that does not contain any four-letter words.) A stronger version, which people could choose or which might be the default, would say, 'WARNING: THIS APPEARS TO BE AN UNCIVIL EMAIL. THIS WILL NOT BE SENT UNLESS YOU ASK TO RESEND IN TWENTY-FOUR HOURS.' With the stronger version, you might be able to bypass the delay with some work (by inputting, say, your Social Security number and your grandfather's birth date, or maybe by solving some irritating math problem!).\*

The Reflective System can be nicer as well as smarter than the Automatic System. Sometimes it's even smart to be nice. We think that Humans would be better off if they gave a boost to what Abraham Lincoln called 'the better angels of our nature.'

\* While we are waiting for this program to be invented, we have adopted a self-control device of our own as a substitute. When one of us gets really angry, he drafts the angry email, and sends it to the other one to edit. Of course, this won't work if we get angry with each other, so we are hoping the program gets invented soon.

## Objections

Who would oppose nudges? We are aware that hard-line anti-paternalists, and possibly others, will have serious objections.<sup>1</sup> Let us consider the possible counterarguments in sequence. We begin with those that seem to us weakest, and then turn to those that raise more complicated issues.

### THE SLIPPERY SLOPE

It is tempting to worry that those who embrace libertarian paternalism are starting down an alarmingly slippery slope. Skeptics might fear that once we accept modest paternalism for savings or cafeteria lines or environmental protection, highly intrusive interventions will surely follow. They might object that if we permit information campaigns that encourage people to conserve energy, a government propaganda machine will move rapidly from education to outright manipulation to coercion and bans.

The critics could easily envisage an onslaught of what seem, to them, to be unacceptably intrusive forms of paternalism. Governments that start with education might end with stiff fines and even prison terms. The case of cigarettes offers a possible example. Some nations have gone from modest warning labels to much more aggressive information campaigns to high cigarette taxes to bans on smoking in public places, and a smoker would not have to be paranoid to think that the day might eventually come when one or another nation heavily regulates or even bans cigarettes altogether. Indeed, many

would welcome this for cigarettes, though most would not for alcohol. Where do we stop? Sliding all the way down the slippery slope is unlikely, to be sure, but faced with the risk of overreaching, critics might think it is better to avoid starting to slide at all.

We have three responses to this line of attack. The first is that reliance on a slippery-slope argument ducks the question of whether our proposals have merit in and of themselves. Surely that question is worth engaging. If our proposals help people save more, eat better, invest more wisely, and choose better insurance plans and credit cards – in each case only when they want to – isn't that a good thing? If our policies are unwise, then it would be constructive to criticize them directly rather than to rely only on the fear of a hypothetical slippery slope. And if our proposals are worthwhile, then let's make progress on those, and do whatever it takes to pour sand on the slope (assuming that we really are worried about how slippery it is).

The second response is that our own libertarian condition, requiring low-cost opt-out rights, reduces the steepness of the ostensibly slippery slope. Our proposals are emphatically designed to retain freedom of choice. In many domains, from environmental protection to marriage, we would create such freedom where it does not now exist. So long as paternalistic interventions can be easily avoided by those who seek to adopt a course of their own, the risks decried by antipaternalists are modest. Slippery-slope arguments are most convincing when it is not possible to distinguish the proposed course of action from abhorrent, unacceptable, or scary courses of action. Because libertarian paternalists retain freedom of choice, we can say, with conviction, that our own approach opposes the most objectionable kinds of government intervention.

The third point is one that we have emphasized throughout: In many cases, some kind of nudge is inevitable, and so it is pointless to ask government simply to stand aside. Just as no building lacks an architecture, so no choice lacks a context. Choice architects, whether private or public, must do something. With respect to pollution, rules have to be established, even if only to say that polluters face no liability and may pollute with impunity. Even if states dispensed with both marriage and civil unions, contract law would have to be

available to say what disbanding couples owe each other (if anything). If the government is going to adopt a prescription drug plan, some sort of choice architecture must be put in place.

Often life turns up problems that people did not anticipate – for investments, rental car and credit card agreements, mortgages, and uses of energy. Both private and public institutions need rules to determine how such situations are handled. When those rules seem invisible, it is because people find them so obvious and so sensible that they do not see them as rules at all. But the rules are nonetheless there, and sometimes they are not so sensible.

Those who object to nudges might accept this point for the private sector. Perhaps they believe that competitive pressures can combat the worst kinds of nudges. Banks or cell phone companies that push people in bad directions might find themselves losing customers. We have raised questions about this view, and we will raise some more; but let us put those questions to one side and focus on the slippery-slope argument for government alone. Those who make this argument sometimes speak as if government can be absent – as if the default terms that set the background come from nature or from the sky. This is a big mistake. To be sure, the default terms that now apply in any particular context might be best, in the sense that they promote people's interests overall or on balance. But that view must be defended, not assumed. And it would be odd for those who generally hold government in extremely low esteem to think that in all domains, past governments have somehow stumbled onto a set of ideal arrangements.\*

\* A possible response would invoke the great British traditionalist Edmund Burke, and in particular Burke's arguments on behalf of the likely wisdom of long-standing social practices; see Burke (1993). Burke thought that such practices reflected not government action but the judgments of many people over many periods, and that the law often embodies those judgments. Many traditionalists invoke Burkean arguments against social engineering of any kind.

We agree that long-standing traditions may be quite sensible, but we do not believe that traditionalists have a good objection to libertarian paternalism. Social practices, and the laws that reflect them, often persist not because they are wise but because Humans, often suffering from self-control problems, are simply following other Humans. Inertia, procrastination, and imitation often drive our behavior. Once our

## EVIL NUDGERS AND BAD NUDGES

In offering supposedly helpful nudges, choice architects may have their own agendas. Those who favor one default rule over another may do so because their own economic interests are at stake. When companies offer you a special rate for the first month, then automatically reenroll you in the program at a higher rate after the end of the introductory period, their primary motivation is not to save you the trouble of signing up for yourself. So let's go on record as saying that choice architects in all walks of life have incentives to nudge people in directions that benefit the architects (or their employers) rather than the users. But what conclusion should we draw from this observation? Real architects can have conflicts of interest with their clients as well, but we don't think they should stop designing buildings. Instead, we try to line up incentives when we can, and employ monitoring and transparency when we can't.

One question is whether we should worry even more about public choice architects than private choice architects. Maybe so, but we worry about both. Private institutions are sometimes self-serving, greedy, and incompetent, and they exploit people. On the face of it, it is odd to say that the public architects are always more dangerous than the private ones. After all, managers in the public sector have to answer to voters, and managers in the private sector have as their mandate the job of maximizing profits and share prices, not consumer welfare. Indeed, some of those who are most suspicious of governments think that the only responsibility of private managers is to maximize share prices. As we have emphasized, the invisible hand will, in some circumstances, lead those trying to maximize profits to maximize consumer welfare too. But when consumers are confused about the features of the products they are buying, it can be profit maximizing to exploit their confusion, especially in the short run but

traditions are brought down to earth, the arguments on their behalf seem stronger or weaker, depending on the context. We do not mean here to question the view that laws that really do embody the judgments of many people often deserve support for that reason.

possibly in the long run too. The financial crisis of 2008 was produced, in part, because people had too little understanding of the agreements into which they were entering, and their ignorance was exploited.

The invisible hand works best when products are simple and purchased frequently. We worry very little about consumers being ripped off by their dry cleaners. A dry cleaner who loses shirts or suddenly doubles prices will not be in business long. But a mortgage broker who fails to point out that the teaser rate will disappear quickly is long gone by the time the customer gets the bad news.

The editors of the *Economist*, in a largely sympathetic treatment of libertarian paternalism, offered this cautionary note: 'From the point of view of liberty, there is a serious danger of overreach, and therefore grounds for caution. Politicians, after all, are hardly strangers to the art of framing the public's choices and rigging its decisions for partisan ends. And what is to stop lobbyists, axe-grinders and busybodies of all kinds hijacking the whole effort?'<sup>22</sup>

We agree that government officials, elected or otherwise, are often captured by private-sector interests whose representatives are seeking to nudge people in directions that will specifically promote their selfish goals. That is one reason that we want to maintain freedom of choice. But if private-sector interests are just following the invisible hand in furthering the interests of their customers, what's the problem?<sup>23</sup> The more serious point is that we should be worried about all choice architects, public and private alike. We should create rules of engagement that reduce fraud and other abuses, that promote healthy competition, that restrict interest-group power, and that create incentives to make it more likely that the architects will serve the public interest. In both the public and private sectors, a primary goal should be to increase transparency. Our various RECAP proposals are specifically designed to make it easier for consumers to figure out how much of some service they are using and how much they are paying for it. In the environmental domain, we have suggested that disclosure can be an effective, and low-cost, monitoring device.

We would love to see similar principles used to monitor

governments. Require government officials to put all their votes, earmarks, and contributions from lobbyists on their Web sites. Require those determining the future of energy policy (to cite a random example) to reveal which profit-maximizing firms were invited to lend their all-too-invisible hands to the process of designing the rules. Require government agencies, not merely the private sector, to disclose their contributions to air and water pollution, and their greenhouse gas emissions. American Supreme Court Justice Louis Brandeis urged that 'sunlight is the best of disinfectants.' Democratic governments, as well as authoritarian ones, could use a lot more sunlight.

In emphasizing the effects of plan design on choice, we hope to encourage plan designers to become more informed. And by arguing for a libertarian check on bad plans, we hope to create a strong safeguard against ill-considered or ill-motivated plans. To the extent that individual self-interest is a healthy check on planners, freedom of choice is an important corrective.

### THE RIGHT TO BE WRONG

Skeptics might argue that in a free society, people have the right to be wrong, and it is sometimes helpful for us to make mistakes, since that is how we learn. On the first point we heartily agree, which is why we insist on opt-out rights. If people really want to invest their entire retirement portfolio in high-tech Romanian stocks, we say go for it. But for unsophisticated choosers, there is little harm in putting some warning signs along the way. We approve of the signs at some ski areas warning novice and intermediate skiers: 'Don't even think about going down this trail if you are not an expert.'

We worry more about poor people who were duped into taking a mortgage they would soon be unable to afford than about the investment firms that bought portfolios of those mortgages. That latter group should have known better (though better disclosure would help here, too), and they are likely to devise improved methods of evaluating the risks of loans on their own. But how much learning do

you think is good for people? We do not believe that children should learn the dangers of swimming pools by falling in and hoping for the best. Should pedestrians in London get hit by a double-decker bus to teach them to 'look right'? Isn't a reminder on the sidewalk better?

### OF PUNISHMENT, REDISTRIBUTION, AND CHOICE

Some of our most extreme critics offer an objection that will strike many readers as just odd. These critics object to any forced exchanges. They don't like to take anything from Peter to give to Paul, even if Peter is very rich and Paul is very poor. They obviously oppose progressive taxes. (Well, most taxes, actually.) In the areas that concern us, these critics would disapprove of policies that explicitly benefit the weak, poor, uneducated, or unsophisticated. They would object to these policies not because they lack sympathy for these groups but because they think that any help for them should come voluntarily from the private sector, such as from charities, and that government policies would come at the expense of other groups (often the strong, rich, educated, and sophisticated). They don't like any government policy that takes resources from some in order to assist others.

We must confess that we do not share the view that all redistribution is illegitimate. We think that a good society makes trade-offs between protecting the unfortunate and encouraging initiative and self-help – between giving everyone a decent share of the pie and increasing the size of the pie. In our view, the optimal level of redistribution is not zero. But even those who hate redistribution more than we do should have little concern about our policies. Most of the time, nudging helps those who need help while imposing minimal costs on those who do not. If people are already saving for retirement, offering the Save More Tomorrow program will cause them no problems. If people are not smoking, or are naturally (or unnaturally) thin, campaigns to help smokers and the obese will do them little harm.

Some skeptics might object that some of our proposals would require the Econs to pay something (not a lot) for programs they don't need and from which they don't benefit. But if the people who need the help are also imposing costs on society – for example, through higher health costs – then having the Econs share in the costs of helping the Humans seems like a modest price to pay. Of course, some anti-redistributive types will object to a health system that forces the rest of us to pay for those who need health care. And it is true that on a relative basis the Econs may still lose out from policies that help Humans. If Peter's happiness depends, in part, on his being richer than Paul, then anything that pulls Paul up by his bootstraps makes Peter worse off. But we think, though we admit to having no evidence to support our view, that most Peters actually take pleasure in helping out the worst-off members of society (even if the Pauls are being helped by government rather than by private charity). As for those who feel miserable if their poorest neighbors close some of the gap, they have our sympathy, but not our empathy.

The most ardent libertarians have another arrow in their quiver. They are concerned about liberty and free choice rather than about welfare. For this reason, they prefer required choosing to nudges. At most, they would like to provide people with the information necessary to make an informed choice, and then tell people to choose for themselves: no nudges! This view is reflected in the campaign by the Swedish government to get citizens to choose their own investment portfolios and the idea that for organ donations, people should be asked to make their wishes clear, without any default rule. Both policies represent a deliberate decision not to nudge.

Although nudges are often unavoidable, we enthusiastically agree that required (or strongly encouraged) active choosing is sometimes the right route, and we have no problem with providing information and educational campaigns (we are professors, after all). But forced choosing is not always best. When the choices are hard and the options are numerous, requiring people to choose for themselves might be preferred and might not lead to the best decisions. Given that people would often choose not to choose, it is hard to see why freedom lovers should compel choice even though people (freely and

voluntarily) resist it. If we ask the waiter to select a good bottle of wine to go with our dinner, we will not be happy if he says that we should just choose for ourselves!

As for information and educational campaigns, one of the main lessons from psychology is that it is impossible for such programs to be 'neutral,' regardless of how scrupulously designers try to achieve that goal. So to put it simply, forcing people to choose is not always wise, and remaining neutral is not always possible.

### DRAWING LINES AND THE PUBLICITY PRINCIPLE

A while back Sunstein took his teenage daughter to Lollapalooza, the three-day rock festival held every year in Chicago, Illinois. On Friday night a huge sign, with changing electronic messages, often showed the schedule of performances, but interspersed that information with a message saying, 'DRINK MORE WATER.' The print was large; the message was accompanied by another one: 'YOU SWEAT IN THE HEAT: YOU LOSE WATER.'

What was the point of this announcement? Chicago had been in the midst of a terrible heat wave, and those who ran Lollapalooza were clearly trying to prevent the various health problems that are associated with dehydration. The sign was a nudge. No one was forced to drink. But those who produced the sign were sensitive to how people think. In particular, the choice of the particular words *more water* was excellent. Those words were likely to be far more effective than blander alternatives, such as 'DRINK ENOUGH WATER' or 'DRINK WATER.' The suggestion that we 'LOSE WATER' cleverly invoked loss aversion on behalf of staying hydrated. (As it happens, Sunstein wished that he had seen the sign earlier; he became very thirsty during the performance of the band Death Cab for Cutie, but the crowd was so densely packed that it was impossible to go out to find water.)

Now compare an imaginable alternative. Suppose that instead of having a visible 'DRINK MORE WATER' sign, the schedules for



the day were briefly and invisibly interrupted by subliminal advertising. The subliminal advertisement might say, 'DRINK MORE WATER,' 'AREN'T YOU THIRSTY???' or 'DON'T DRINK AND DRIVE'; 'DRUGS KILL' or 'SUPPORT YOUR PRESIDENT'; 'ABORTION IS MURDER' or 'BUY 10 COPIES OF NUDGE.' Can subliminal advertising be seen as a form of libertarian paternalism? After all, it steers people's choices, but it does not make their decisions for them.

So do we embrace subliminal advertising – so long as it is in the interest of desirable ends? What limits should be placed on private or public manipulation as such? A general objection to libertarian paternalism, and to certain kinds of nudges, might be that they are insidious – that they empower government to maneuver people in its preferred directions, and at the same time provide officials with excellent tools by which to accomplish that task. Compare subliminal advertising to something just as cunning. If you want people to lose weight, one effective strategy is to put mirrors in the cafeteria. When people see themselves in the mirror, they may eat less if they are chubby. Is this okay? And if mirrors are acceptable, what about mirrors that are intentionally unflattering? (We seem to run into more of those every year.) Are such mirrors an acceptable strategy for our friend Carolyn in the cafeteria? If so, what should we think about flattering mirrors in a fast food restaurant?

To approach these problems we once again rely on one of our guiding principles: transparency. In this context we endorse what the philosopher John Rawls (1971) called the publicity principle. In its simplest form, the publicity principle bans government from selecting a policy that it would not be able or willing to defend publicly to its own citizens. We like this principle on two grounds. The first is practical. If a government adopts a policy that it could not defend publicly, it stands to face considerable embarrassment, and perhaps much worse, if the policy and its grounds are disclosed. (Those who participated in, or sanctioned, the cruel and degrading actions in the Abu Ghraib prison might have benefited from using this principle.) The second and more important ground involves the idea of respect.

The government should respect the people whom it governs, and if it adopts policies that it could not defend in public, it fails to manifest that respect. Instead, it treats its citizens as tools for its own manipulation. In this sense, the publicity principle is connected with the prohibition on lying. Someone who lies treats people as means, not as ends.

We think that the publicity principle is a good guideline for constraining and implementing nudges, in both the public and private sectors. Consider Save More Tomorrow; here people are explicitly informed of the nature of the proposal, and specifically asked whether they would like to accept it. Similarly, when firms adopt automatic enrollment, they do not make a secret of it, and can say honestly that they do so because they think that most workers will be better off joining the plan.

The same conclusion holds for legal default rules. If government alters such rules – to encourage organ donation or to reduce age discrimination – it should not be secretive about what it is doing. The same can be said for educational campaigns that enlist behavioral findings in order to provide a helpful nudge. If government officials use cleverly worded signs to reduce litter, deter the theft of petrified wood, or encourage people to register as organ donors, they should be happy to reveal both their methods and their motives. Consider an American advertisement from a few years ago, showing an egg frying on a hot stove with the voiceover, 'This is your brain on drugs.' The vivid image was designed to trigger fear of drug use. The advertisement might well be deemed manipulative, but it did not violate the publicity principle.

We readily agree that hard cases are imaginable. In the abstract, subliminal advertising does seem to run afoul of the publicity principle. People are outraged by such advertising because they are being influenced without being informed of that fact. But what if the use of subliminal advertising were disclosed in advance? What if the government openly announces that it will be relying on subliminal advertising in order, for example, to combat violent crime, excessive drinking, and the failure to pay one's taxes? Is disclosure enough?

We tend to think that it is not – that manipulation of this kind is objectionable precisely because it is invisible and thus impossible to monitor.

### NEUTRALITY

We have stressed that in many situations government cannot be purely neutral, but a form of neutrality is sometimes both feasible and important. Consider the case of voting. Ballots have to list candidates in some order. It is well known that candidates benefit from being listed first. One study finds that a candidate whose name is listed first gains about 3.5 percentage points in the voting.\* No one should be happy about a situation in which governments – which is to say incumbents – are allowed to choose the order of the candidates' names. With respect to ballot design, a principle of neutrality makes a lot of sense, and in that context, neutrality is often thought to require randomness.

Why, then, do we think that governments should be trusted with nudging Medicare participants toward the insurance plan that is best for them, or with paying for ads that tell people not to 'mess with Texas'? Why is randomizing ballots good and randomizing assignment to insurance policies bad? Part of the answer is that sometimes people have a right, even a constitutional right, to government neutrality of a certain kind. With respect to the right to vote, the government must avoid deliberate nudging in the particular sense that its choice architecture cannot favor any particular candidate. Something similar can be said about the right to free exercise of religion and the right to free speech. Government may not encourage people to join a 'Pray to Jesus Moré Tomorrow' plan, or a 'Dissent Less Tomorrow' plan.

Outside the context of constitutional rights, there is a more general

\* See Koppell and Steen (2004). The effect is smaller when the candidates are well known, such as in presidential elections, but when candidates have little name recognition or get low media coverage (as in many if not most local elections), the effect can be even bigger.

question about neutrality, and it extends to both the private and the public sectors. Our basic conclusion is that the evaluation of nudges depends on their effects – on whether they hurt people or help them. Skeptics might argue that in some domains, it is best to avoid nudges altogether. But how can firms do that? It is not possible to avoid choice architecture, and in that sense it is not possible to avoid influencing people. We agree that in some cases, forced choosing is best. But often it is not feasible, and sometimes it is more trouble than it is worth.

True, some kinds of nudges are not inevitable. Education and advertising campaigns are optional, and they can be avoided. Should governments educate people about the risks of smoking and drinking, unprotected sex, trans fats, spike-heeled shoes? Should employers offer educational campaigns about similar topics? To answer these questions, we need to know something about the Nudgers and the Nudgees. One question is whether an outside agent (the Nudger) is likely to be able to help an individual (the Nudgee) make a better choice. Part of this depends on how hard the choices are for the Nudgees. As we have seen, people are most likely to need nudges for decisions that are difficult, complex, and infrequent, and when they have poor feedback and few opportunities for learning.

But the potential for beneficial nudging also depends on the ability of the Nudgers to make good guesses about what is best for the Nudgees. In general, Nudgers will be able to make good guesses when they have much more expertise at their disposal, and when the differences in individuals' tastes and preferences are either not very big (nearly everyone prefers chocolate ice cream to licorice) or when differences in tastes and needs can be easily detected (as when the government deduces that you are likely to prefer a drug plan that offers low prices on the drugs you take regularly). For all the reasons we have discussed, nudging makes more sense for mortgages than for soft drinks. Mortgages are complicated, and outsiders can provide a lot of help. By contrast, no expert has much to offer about whether you are likely to prefer Coke to Pepsi that would not be better answered by taking a sip of each. So to summarize, when choices are fraught, when Nudgers have expertise, and when differences in

individual preferences are either not important or can be easily estimated, then the potential for helpful nudging is high.

Of course, we need to be worried about incompetence and self-dealing on the part of Nudgers. If the Nudgers are incompetent, then they could easily do more harm than good by directing people's choices. And if the risk of self-dealing is high, then it is right to be wary of attempts to nudge. There are some who think that any decision made by a government official is likely to be incompetent and corrupt. Those who hold this view would want government-sponsored nudging to be kept to a bare minimum – that is, limited to cases in which some nudging is inevitable, such as choosing default options. But for those with less pessimistic views about government, who think politicians and bureaucrats are just Humans, not much more likely to be stupid or dishonest than (say) business executives, lawyers, or economists, we can ask whether a situation contains special risks of self-dealing. This makes it clear why leaving ballot design to politicians is an obviously bad idea, whereas letting politicians hire experts to help pick sensible default options for Medicare participants is probably a good idea (especially if politicians have to report donations from insurance companies).

### WHY STOP AT LIBERTARIAN PATERNALISM?

We hope that conservatives, moderates, liberals, self-identified libertarians, and many others might be able to endorse libertarian paternalism. So far we have emphasized the criticisms of certain conservatives and the most ardent libertarians. A different set of objections can be expected from the opposite direction. Enthusiastic paternalists might well feel emboldened by evidence of Human frailties. So emboldened, they might urge that in many domains, nudging and libertarian paternalism are much too modest and cautious. If we want to protect people, why not go further? In some circumstances, wouldn't people's lives go best if we took away freedom of choice? Isn't there a legitimate place for mandate and bans? If Humans

really make errors, why not protect them, by forbidding them to err?

The truth, of course, is that there are no hard-and-fast stopping points. We have defined libertarian paternalism to include actions, rules, and other nudges that can be easily avoided by opting out. We do not have a clear definition of 'easily avoided,' but we hold up 'one-click' paternalism to be as close as we can get with existing technology. (We can hope for 'one-thought' or 'one-blink' technology in the near future.) Our goal is to allow people to go their own way at the lowest possible cost. To be sure, some of the policies we have advocated impose higher costs than one click. To opt out of an automatic enrollment plan, an employee typically has to fill out and return some form – not a big cost, but more than one click. It would be arbitrary and a bit ridiculous to offer an inflexible rule to specify when costs are high enough to disqualify a policy as libertarian, but the precise question of degree is not really important. Let us simply say that we want those costs to be small. The real question is when we should be willing to impose some nontrivial costs in the interests of improving people's welfare.

A good approach to thinking about these problems has been proposed by a collection of behavioral economists and lawyers under the rubric of 'asymmetric paternalism.'<sup>5</sup> Their guiding principle is that we should design policies that help the least sophisticated people in society while imposing the smallest possible costs on the most sophisticated. (Libertarian paternalism is a form of asymmetric paternalism in which the costs imposed on the sophisticated are kept close to zero.) A simple example of asymmetric paternalism involves sunlamps. Sunlamps are consumer devices that let users get a tan without going to the beach. Typically a user will lie down under the lamp, close her eyes, and remain there for a few minutes. It is dangerous to stay under the lamp for more than a few minutes because serious burns are possible. (Of course, using the lamp at all may be risking skin cancer, but we will follow the lead of the users of this appliance and ignore that issue here.) It is the nature of a sunlamp that it is warm. So a choice architect who is expecting error will realize that there is a serious danger here: some users lying under a

warm lamp with their eyes closed will drift off to sleep and wake up with third-degree burns.

Now suppose that for a modest cost, the sunlamp can be equipped with a timer switch set so that it can be turned on only for brief periods, after which it shuts off automatically – a design common for the warming lamps found in some hotel bathrooms. Should the government require that all sunlamps be sold with such a switch? Asymmetrical paternalists believe that the answer depends on some kind of cost-benefit analysis. If the cost of the switch is low enough and the risk of burns is high enough, then the answer is yes.

Asymmetric paternalists also endorse a class of regulations requiring ‘cooling-off periods.’ The rationale is that in the heat of the moment, consumers might make ill-considered or improvident decisions. Self-control problems are the underlying concern. A mandatory cooling-off period for door-to-door sales, of the sort imposed by the United States Federal Trade Commission in 1972, provides an illustration.<sup>6</sup> Under the Commission’s rule, any door-to-door sale must be accompanied by a written statement informing the buyer of his right to rescind the purchase within three days of the transaction. The law came about because of complaints about high-pressure sales techniques and contracts with fine print. Again a cost-benefit test, looking at the benefits for those who are helped and the costs for those who are not, could be used to decide when such laws would be imposed. Using such a test, regulators would want to consider how big the imposition is on those who have to wait a few days to receive the product, and how often buyers would want to change their minds. When the costs are low (did anyone ever really need to buy an encyclopedia right away, even before Wikipedia was online?) and there are frequent changes of heart, such a regulation makes sense to us.

For certain fundamental decisions, often made on impulse, a similar strategy might well be best. Some states impose a mandatory waiting period before a couple may get divorced.<sup>7</sup> Asking people to pause and think before making a decision of that magnitude seems like a sensible idea, and we are hard-pressed to think of why anyone would need to divorce immediately. (True, spouses sometimes really

don’t like each other, but is it really terrible to have to wait a short while before the deed is done?) We could easily imagine similar restrictions on the decision to marry, and some states have moved in this direction as well.<sup>8</sup> Aware that people might act in a way that they will regret, regulators do not block their choices but do ensure a period for sober reflection. Note in this regard that mandatory cooling-off periods make best sense, and tend to be imposed, when two conditions are met: (a) people make the relevant decisions infrequently and therefore lack a great deal of experience, and (b) emotions are likely to be running high. These are the circumstances in which people are especially prone to making choices that they will regret.

Occupational safety and health laws go beyond asymmetric paternalism; they impose flat bans, and they undoubtedly do hurt some people.<sup>9</sup> Such laws do not permit individual workers to trade their right to (what the government considers to be) a safe work environment in return for a higher salary, even if sophisticated and knowledgeable people might like to do that. All over the world, pension and Social Security programs do not merely encourage savings; they require it. The laws that ban discrimination on the basis of race, sex, and religion are not waivable. An employee cannot be asked to trade the right to be free from sexual harassment in return for a higher wage. These various prohibitions are not in any sense libertarian, but perhaps some of them can be defended by reference to the kinds of Human errors that we have explored here. Non-libertarian paternalists might like to build on such initiatives to do a great deal more, perhaps in the domains of health care and consumer protection.

Many of these arguments have substantial appeal, yet we usually resist going further down the paternalistic path. What are the grounds for our resistance? After all, we have already granted that the costs imposed by libertarian paternalism may not be zero, so it would be disingenuous for us to say that we always and strongly object to regulations that raise the costs imposed from tiny to small. Nor do we personally oppose all mandates. But deciding where to stop, and when to call a nudge a shove (much less a prison), is tricky.

Where mandates are involved and opt-outs are unavailable, the slippery-slope argument can begin to have some merit, especially if regulators are heavy-handed. We agree that flat bans are justified in some contexts, but they raise distinctive concerns, and, in general, we prefer interventions that are more libertarian and less intrusive.

We are much less cool about cooling-off periods. We're even warm. In the right circumstances, the gains from such rules can be sufficient to make it worthwhile to take a few cautious steps down that possibly slippery slope.

## The Real Third Way

In this book we have made two major claims. The first is that seemingly small features of social situations can have massive effects on people's behavior; nudges are everywhere, even if we do not see them. Choice architecture, both good and bad, is pervasive and unavoidable, and it greatly affects our decisions. The second claim is that libertarian paternalism is not an oxymoron. Choice architects can preserve freedom of choice while also nudging people in directions that will improve their lives.

We have covered a great deal of territory, including savings, Social Security, credit markets, environmental policy, health care, marriage, and much more. But the range of potential applications is much broader than the topics we have managed to include. One of our main hopes is that an understanding of choice architecture, and the power of nudges, will lead others to think of creative ways to improve human lives in other domains. Many of those domains involve purely private action. Workplaces, corporate boards, universities, religious organizations, clubs, and even families might be able to use, and to benefit from, small exercises in libertarian paternalism.

With respect to government, we hope that the general approach might serve as a viable middle ground in our unnecessarily polarized society. The twentieth century was pervaded by a great deal of artificial talk about the possibility of a 'Third Way.' We are hopeful that libertarian paternalism offers a real Third Way – one that can break through some of the least tractable debates in contemporary democracies.

Ever since Franklin Delano Roosevelt's New Deal, the Democratic