

## I

## Priming the Pump: Framing Effects and the Litany of Human Irrationality

This is a book about frames and framing effects. So, let's start with some examples, to get a preliminary feel for what is at stake here. I will present five framing effects, without much by way of discussion or analysis. In each of these cases, people come to view a single outcome in very different ways, depending on how it is framed.

The first three cases are experimentally induced in a lab. They display the framing effects cleverly and very clearly, even though they are not the most celebrated cases of experimental framing effects such as the celebrated Asian disease paradigm, which we'll look at in more detail in Chapter 2.

The fourth example shifts the emphasis away from the laboratory. It is an idealized version of familiar real-life cases with which most of us are painfully familiar. When faced with temptation, decision-makers struggle to stick to the plans they have committed themselves to as the moment of truth draws near. We'll look at cases of temptation and self-control in much more detail later on (in Chapter 7), but the point I want to make here is that how we frame the path of virtue (or the path of temptation) can determine whether or not we manage to exercise self-control.

The final example completely changes tack. We go back to the shadowy world of the ancient Greek tragedies, where history and myth blend. It is a famous passage from the first play in Aeschylus's trilogy *The Oresteia*, where the chorus looks back to Agamemnon's fateful dilemma at Aulis. From a psychological point of view, it is exponentially more complex than either the three experimental cases or the self-control/temptation example (and certainly doesn't lend itself to experimental replication). Despite that (or really, because of it), we will come back to it many times in the course

of this book, as I believe that the power and importance of frames becomes much clearer when we see how they function in the really hard cases. The easy cases have received too much attention, which has skewed our understanding of frames and framing effects.

Without digressing too much, at this stage the only goal is to understand the cases and come to a (perhaps provisional!) conclusion about what they reveal, and whether what is going on is rational or irrational. It might be a good idea to make a note of your thoughts, so that you can come back to your immediate reactions to these examples when we are further along in the book.

### **Framing Effect 1: Rating Basketball Players**

Irwin Levin at the University of Iowa asked subjects to evaluate how well basketball players were performing, based on information he provided about their shots over a period of time.<sup>1</sup> He presented the information in two different ways. For one group, it was presented positively, as they were told the percentage of shots that the player made successfully. For a second group the information was presented negatively, in terms of the percentage of shots that the player had missed. These are of course different ways of framing the same facts about how the player played. Yet Levin found that the same players were consistently ranked more highly by subjects in the positive frame than they were in the negative frame.

### **Framing Effect 2: Negotiating Contracts**

Margaret Neale and Max Bazerman (from Arizona and MIT respectively) asked a class of 102 undergraduates studying Business Administration at the University of Texas to simulate an industrial negotiating situation.<sup>2</sup> The students had to imagine that they were negotiating with union representatives on behalf of a fictional company (Townsford). Their job was to negotiate a settlement, but they also had the option of giving up and going into binding arbitration – a much riskier strategy.

They were divided into two groups. Both groups were presented with information about the different priorities and settlement-points of management and the union on five different issues. For one group the information was presented positively (from the perspective of the company).

<sup>1</sup> Reported in Levin, Schneider, and Gaeth 1998.    <sup>2</sup> Neale and Bazerman 1985.

Students in the positive frame were given numbers corresponding to the total gain to company if the company were to settle at that point. They were also told:

Any union concession from their current position will result in gains for the company. Please remember that your primary objective is to maximize such gains for the company. I cannot emphasize the importance of these gains to Townsford enough. It is mandatory that you, as Townsford's representative, secure such concessions from the union to increase these gains to a meaningful level.

Students in the negative frame were given exactly the same numbers, but those numbers were presented in the form of losses rather than gains. This group was told:

Any concessions beyond those granted will represent serious financial losses to the company. Please remember that your primary objective is to minimize such losses to the company. I cannot emphasize the severity of this situation enough. It is mandatory that you, as Townsford's representative, secure the necessary concessions from the union to reduce our losses to a tolerable level.

Obviously, there is no difference in the objective information possessed by the two groups. Contract negotiations are what is called a zero-sum game. A gain to the company is a loss for the union, and a gain to the union is a loss for the company.

Still the group in the positive frame were much more likely to negotiate a settlement, whereas the group in the negative frame were more willing to take the riskier option of abandoning the negotiation and submitting to a binding arbitration.

### **Framing Effect 3: Sacrifices for the Common Good**

As game theorists know well in theory, and the rest of us in practice, many social situations have the form of a *social dilemma*.<sup>3</sup> Social dilemmas occur when collective disaster is the result of individuals behaving perfectly rationally to promote their self-interest. Open range grazing in the American West is a famous example. It had its heyday in the second half of the nineteenth century. Any rancher could graze their animals on open rangeland and each individual farmer had an obvious incentive to put as many of their animals on the land as they could. Why not, since the grazing is free? But of course, if too many farmers do so, then the

<sup>3</sup> Brewer and Kramer 1986.

rangeland is destroyed for everyone.<sup>4</sup> Open range grazing is an example of a commons dilemma (often called *tragedy of the commons*<sup>5</sup>). In the simplest form of commons dilemma individuals have to decide what share to take for themselves of a shared resource (as in the open range case, where the open range is the shared resource).

Another type of social dilemma comes with the provision of public goods. A public good is a good that benefits everyone, at least potentially (such as university education, or state-funded healthcare in a single-payer system, such as the United Kingdom's National Health Service). In public good dilemmas, individuals have to decide how much (if anything) to contribute to maintaining a public good. Such dilemmas can arise for private groups – residents of an apartment block deciding whether to increase the maintenance charge to pay for a new roof, for example. But they also arise in debates about taxation levels. In the United States, for example, local governments sometimes hold referendums on increasing property taxes to pay for additional local services, or improved schooling. Each resident and each voter is confronted with a public good dilemma.

Marilyn Brewer (UCLA) and Roderick Kramer (Stanford) ran a study to test whether subjects would respond differently to a collective choice problem depending on whether it was presented as a commons dilemma or as a public good dilemma. The experimental task was cleverly designed to induce the tension between individual good and common good that characterizes all social dilemmas. Subjects were told that there was a common resource pool of points. All the subjects had access to the common pool and were instructed to maximize their own points total while maintaining the common resource as long as possible. In one condition (the *public good condition*), subjects were given points and then had to decide what proportion to contribute back to the pool, while in the *commons dilemma condition* subjects had to decide how many points to take from the common pool. The outcomes were identical across the two conditions in terms of points. And so the monetary rewards to the subjects

<sup>4</sup> Limited forms of open range grazing persist in some western states in the United States and Canada, but when a state such as Texas is described as an open range state, what this typically means is that landowners do not have a legal obligation to fence their animals and, for example, keep them off public roads. The “golden age” of open range grazing was brought to an end in the United States in the last years of the nineteenth century by a combination of over-supply and over-grazing, compounded by a very severe winter in 1886–87.

<sup>5</sup> The phrase originated with the Victorian economist William Forster Lloyd, but was popularized by the ecologist Garrett Hardin in an influential paper of the same name published in 1968.

were the same. There is no difference, for example, between starting with 1,000 points and contributing 250 points to the common pool, on the one hand, and starting with 500 points and taking 250 points from the common pool. Either way you end up with 750 points.

Still, the two groups behaved very differently. It turns out the subjects left more points in the common pool in the commons dilemma condition than they were prepared to contribute to the common pool in the public good condition. Apparently, people are much less willing to contribute points to the common pool than they are to leave points in the common pool. Forgoing a gain is easier than taking a loss, it seems, even when the experiment is designed so that there is no difference in outcome, but only a difference in how the outcome is framed.

#### **Framing Effect 4: The Battle against Temptation**

It is easy to make commitments in advance, but hard to live up to them when the time comes to follow through in the face of temptation. The basic phenomenon should be familiar to anyone who has taken out a gym membership or made a New Year's resolution to lose weight. At a safe (temporal) distance the long-term outcome of being fit and slim is far more attractive than the short-term prospect of an extra hour in bed, or the mid-morning snack. And yet when the alarm goes off or the stomach starts rumbling hours after breakfast and hours before lunch it is a different story. The immediate reward suddenly seems far more attractive than the long-term outcome. Self-control is hard. In fact, one might wonder how it is even possible.

We need to exercise self-control because preferences change over time. In the indeterminate future, being fit and slim is much more attractive than the prospect of a snack. But when the snack is right there, it seems much more appealing than being fit and slim at some indefinite time in the future. This type of *preference reversal* occurs because of how people discount the future. If I have a high discount rate, then I care relatively little about the future. But if I have a low discount rate, then I care very much about what happens in the future. The problem is that people do not typically have constant discount rates. Much experimental evidence suggests that the discount rate for a given event changes as the event approaches. If I decide on a Friday to fast until lunchtime on the following Thursday, then I probably have a high discount rate on Friday and over the weekend for the breakfast that I am planning to forgo on Thursday morning. As the week goes on, though, my discount rate for the breakfast

falls. And by the time I wake up on Thursday morning it is very low indeed. In the meantime, though, my discount rate for the long-term goal of being slim and fit has not really changed at all. And so the short-term prospect of eating breakfast comes to seem more important than the long-term goal of being slim and fit. That is how temptation strikes!

Sometimes we succumb to temptation. But often we don't. Why not? There is a vast literature on this, from self-help manuals to experimental studies on how rats respond to delayed rewards. Crucially, though, whether we succeed in exercising self-control can be due to how we frame the different possible actions and outcomes when faced with temptation. If it is a simple choice between eating breakfast and sticking to my fasting plan, and if my changing discount rates have led to a preference reversal, then I may well end up chowing down on my breakfast. But what if I attach a special importance to actively resisting temptation? This might lead me to a different way of framing the act of holding out for the long-term reward of being fit and slim. For example, if I frame it as the act of being resolute – and I like the idea of being resolute – then it fits with my self-conception. And being resolute now may well make it more likely that I'll be resolute in the future. For all these reasons I might well prefer being resolute in the face of temptation to having breakfast, especially if I frame having breakfast as succumbing to temptation.

As we'll see in Chapter 7, there is experimental evidence that self-control often works like this. But really this is a framing effect. All I've done is reframe the outcomes and reconceptualize the decision problem. In this situation there is no difference between being resolute in the face of temptation and forgoing breakfast. And succumbing to temptation is the same as eating breakfast. The outcomes are the same. Only the framing changes.

Hopefully, by this point you will have started to wonder whether framing effects are always irrational. On the face of it, self-control is a good thing. In fact, it seems more irrational to succumb to temptation and abandon a long-term plan. So, it seems odd to make it irrational to escape temptation by reframing outcomes. This is a case where framing seems to be a tool for rational thought and rational action.

### **Framing Effect 5: Agamemnon at Aulis**

And now for something completely different. The last framing effect I want to present comes from Greek tragedy. As I mentioned earlier, it sits far away from the experimental studies of framing discussed up to

now and, although I will come back to it in much more detail in Chapter 6, I want to put it on the table now to introduce some of the complexities and richness of the framing phenomenon.

The chorus in Aeschylus's tragedy *Agamemnon*, the first play in the *Oresteia* trilogy, tells the story (familiar to his audience from many other sources) of the Greek leader Agamemnon at Aulis. Agamemnon is leading the Greek fleet against Troy to avenge the abduction of Helen by Paris. While the fleet is becalmed at Aulis, the prophet Calchas interprets a portent – two eagles swooping down to kill and eat a pregnant hare. As Calchas interprets the portent, it reflects the displeasure of the goddess Artemis at the prospect of innocents being killed at Troy. The lack of wind has the same source. The only solution, says Calchas, is for Agamemnon to sacrifice to the goddess his own daughter Iphigenia.

In a powerful and memorable passage, the chorus recalls Agamemnon's anguished cry:

And I can still hear the older warlord saying,  
 “Obey, obey, or a heavy doom will crush me! –  
 Oh but doom *will* crush me  
     once I rend my child,  
     the glory of my house –  
     a father's hands are stained,  
 blood of a young girl streaks the altar.  
 Pain both ways and what is worse?  
 Desert the fleets, fail the alliance?  
     No, but stop the winds with a virgin's  
     blood,  
     feed their lust, their fury? – feed their  
     fury! –  
 Law is law! –  
     Let all go well.”<sup>6</sup>

With apologies to Aeschylus (excellently translated by Robert Fagles), Agamemnon might more prosaically be described as in the grip of a framing effect. There is a single option, bringing about the death of Iphigenia, that Agamemnon frames in two different ways – as *Murdering his Daughter*, on the one hand, and as *Following Artemis's Will*, on the other. His alternative is *Failing his Ships and People* (by refusing to make the sacrifice).

Agamemnon's dilemma is that he evaluates the death of Iphigenia differently, depending on how it is framed. He certainly prefers

<sup>6</sup> Aeschylus, *Agamemnon*, lines 205–16, translated by Robert Fagles.

*Following Artemis's Will* to *Failing his Ships and People*. At the same time, though, he prefers *Failing his Ships and People* to *Murdering his Daughter*. But he knows, of course, that *Following Artemis's Will* and *Murdering his Daughter* are the same outcome, differently framed.

By way of a taster for what lies ahead, my view is that the last two examples of framing effects (the battle against temptation and Agamemnon at Aulis) are fundamentally different from the first three. They are more complex both because the decision-situations are more multifaceted and because they engage reasoners' motivations, emotions, and values in deeper ways. It is here that we need to look properly to understand the power of frames; to see how there can be rational framing effects; and to appreciate how these rational framing effects can and should be part of good decision-making.

But it is standardly (almost universally, in fact) believed that it is completely irrational to be susceptible to any kind of framing effect. And one of the reasons that frames and framing are held in such low esteem (from the perspective of rationality) is that people have focused primarily on the first group of framing effects – the ones revealed by experimental psychologists and behavioral economists. And there is a very good reason for this focus. The initial experimental work on framing effects was part of a very significant narrative about human irrationality that emerged in the last decades of the twentieth century. Looking at how that narrative emerged gives useful and important background. We turn to it now.

### The Litany of Irrationality

Every once in a while, experiments and ideas emerge from a narrow university context and take on a life of their own. One such complex of experiments and ideas has become a powerful narrative in the popular imagination. This narrative emerged originally from experiments on the psychology of reasoning and decision-making and then was subsequently reinforced from areas as apparently divergent as behavioral finance and cognitive neuroscience.

Researchers from these areas and others have converged on the basic idea that human beings are fundamentally flawed reasoners, regularly contravening the basic principles of rationality. Laboratory experiments seem to show that even highly educated and trained individuals regularly



and systematically commit egregious fallacies, flouting fundamental laws of logic and basic principles of probability. Some of the experiments are abstract, but many are not. And expertise seems to be no guarantee of success. Doctors evaluating the probability that patients who test positive for a disease really have that disease seem to fare no better than mathematically sophisticated undergraduates in Ivy League schools doing basic tests of logical competence, or MBA candidates assessing investment strategies.

Some of the leading researchers on human reasoning have made drastic claims (in a typically understated academic style). Richard Nisbett, in one of the earliest salvoes in what became known as the rationality wars, said that his and other psychological experiments had “bleak implications for human rationality.”<sup>7</sup> The cognitive psychologists Daniel Kahneman (joint winner of the 2002 Nobel Prize in economics) and Amos Tversky summed up their early work on statistical reasoning by saying “for anyone who would wish to view man as a reasonable intuitive statistician, such results are discouraging.”<sup>8</sup> Others have been more breathless. The title of journalist David McRaney’s best-selling book *You Are Not So Smart* speaks for itself. Likewise, *Predictably Irrational: The Hidden Forces That Shape Our Decisions*, written by the cognitive psychologist and behavioral economist Daniel Ariely.<sup>9</sup>

This is not just an “academic question.” According to the dominant narrative, poor reasoning and irrational decision-making are particularly acute when it comes to finance and investing. Behavioral economics and behavioral finance are, in essence, academic disciplines founded on the premise that market participants are fundamentally irrational when it comes to spending and investing. This basic premise has become well-established among finance professionals and others who make their living in and around financial markets. The websites of major investment companies such as Vanguard offer introductions to behavioral finance for retail investors and investment professionals.<sup>10</sup> The personal finance sections of bookstores and websites are packed with books that offer to help save investors from themselves. A great example (and a very well-written

<sup>7</sup> Nisbett and Borgida 1975.    <sup>8</sup> Kahneman and Tversky 1972.

<sup>9</sup> McRaney 2011 and Ariely 2008.

<sup>10</sup> The Vanguard site for financial advisors, for example, contains video tutorials on how investors make decisions and how financial advisors can incorporate “behavioral coaching” into their practice. See the Advisor’s Alpha section of the Vanguard advisors’ website at <https://advisors.vanguard.com/VGApp/iip/site/advisor/researchcommentary?page=AdvisorAlpha> (accessed 3/28/16).

and thought-provoking book) is *The Little Book of Behavioral Investing: How Not To Be Your Own Worst Enemy* by James Montier.<sup>11</sup>

This is what I call the *litany of human irrationality*.<sup>12</sup> The dominant narrative that human reasoning is fundamentally flawed is built on a frequently recited and repeated invocation of experiments and studies. But these experiments and studies are narrowly focused and much more equivocal than generally thought. They have also been over-interpreted. If the case for human irrationality were really as powerful as it has been taken to be, then it would be a miracle that we ever managed to develop financial and economic systems sophisticated enough to allow investors to go astray as spectacularly as they are supposed to do. So I, like quite a few others, think that this is an area where a degree of skepticism is badly needed.<sup>13</sup>

In any event, while many participants in the “rationality wars” have taken aim at different aspects of the litany of human irrationality, one central part of the litany has been left completely untouched. This is the role of frames and framing in human reasoning, as illustrated in our five examples. We tend to value things as a function of how we frame them. The way in which we look at the world influences how we evaluate our different options and the outcomes that they might bring about. In many cases shifting frames leads us to change how we evaluate things. And this is what leads to framing effects. In a typical framing effect we find ourselves valuing the same thing differently depending upon how we frame it. From the perspective of the psychology of reasoning and behavioral finance (and just about everybody else) susceptibility to framing effects is Exhibit A in the narrative of human irrationality. And even the

<sup>11</sup> Montier 2010.

<sup>12</sup> I owe a terminological debt to Björn Lomberg, who writes about the environmentalist litany in his book *The Skeptical Environmentalist* (Lomberg 2001).

<sup>13</sup> Early push-back against the litany came from the philosophers Elliot Sober 1978 and L. Jonathan Cohen 1981, each of whom objected to the basic idea that there could be an experimental demonstration of human irrationality (for example, by arguing that the basic idea of irrationality only makes sense against the background of shared rationality). For further broadsides and commentary from a philosophical perspective see Stich 1990 and Stein 1996 respectively. Objections to the litany have also come from an evolutionary perspective, with authors such as Gigerenzer 1991 arguing that performance on probability tests drastically improves when the tests are presented in terms of frequencies rather than probabilities, which reflects how our brains evolved to deal with probabilistic information. A related objection to the litany comes from the rational analysis approach first developed by the psychologist John Anderson 1990, which starts from the basic premise that the mind is well adapted to its environment. Oaksford and Chater 2007 use rational analysis to explain (away) many of the key data points from the litany.