The Moral Foundation of Economic Behavior

BY DAVID C. ROSE
CHAPTER 6

The Empathy Problem

If you just learn a single trick, Scout, you’ll get along a lot better with all kinds of folk. You never really understand a person until you consider things from his point of view... Until you climb inside of his skin and walk around in it.—Atticus Finch in Harper Lee’s To Kill a Mockingbird, 1960, p. 30

Introduction

In this chapter, I identify a fundamental problem that large group size poses for combating opportunism through harm-based moral restraint. I will show that if one's implicit theory of morality maintains that wrongfulness is derived solely from harm, then in large groups many acts of opportunism will simply not feel wrong. This is because in large groups it is often the case that no perceptible harm will come to any person because it is spread over too many people to affect any individual's welfare perceptibly. As such, there is no harmed person to empathize with, sympathize with, or feel guilty about. This is a very important point, for it is because of this "empathy problem" that neither increasing our concern for others nor increasing our predilection for feeling guilty will effectively combat opportunism where doing so matters most.¹

Consider a single mother of three who has to work two jobs to earn $25,000 per year. Even she would not notice the loss of 20 cents if she did not observe the loss directly. What is going here is very simple. Life is filled with many random factors. Therefore, we often cannot even perceive relatively small losses unless they are pointed out to us directly. This is for good reason. To be so fastidious as to be able to notice all of them would be insufficient, as it would put us at risk of being so preoccupied with minor problems that we will miss large problems.

When harm from opportunism is spread over most members of a large group, then something like the above occurs. The empathy problem refers to the phenomenon of negative moral acts not feeling wrong if moral restraint is solely harm-based in nature and the cost of such acts is spread over so many people that no one is perceptibly harmed. This is a problem because to an individual, embezzling $1,000 from the corporation that employs him represents a significant improvement in his welfare, but since not a single shareholder has his wealth reduced by even a cent as a result, no feelings of guilt are aroused. Similarly, when an individual inflates a insurance claim by $10,000, no person on the planet is actually harmed at the margin. "The Insurance Company" is harmed, but it is owned by a great many persons, none of whom are perceptibly harmed as individuals. The crux of the problem is that if moral restraint is limited to harm-based moral restraint, then when the harm from opportunism is spread over so many people that there is no person with whom to empathize, there is no one to sympathize with and therefore nothing to feel guilty about.

This is such a simple and obvious problem that one wonders why more hasn't been made of it. One possible reason is that modeling it mathematically in a straightforward way tends to mask its effect. Although the harm per person falls with the size of the group, the number of persons harmed rises proportionately at the same time. At first, this appears to produce an equivalent mathematical effect—100 people harmed by a $1 each, or 1 person harmed by $100, is still $100 of total harm. This is certainly true, of course, but it leaves out important details about the psychological mechanisms that actually give rise to harm-based moral restraint. In reality, no matter how many terms are in a sum, if none of the terms are perceived, so that they are all effectively regarded as zeroes, then the total perceived effect on the part of the opportunist will also be zero. So the fact that a great many people are harmed ends up not offsetting the fact that the harm done at the margin is small.² This comports with Gneezy's (2005) observation that a focus on the harm done to an individual may explain why "... people are more accepting of fraudulent behavior directed at large organizations or rich counterparts than at individuals: the monetary cost may be identical, but the damage to the individual is perceived as greater" (p. 391).

In the movie Office Space, a plan is hatched to skim digits from transactions that would normally be rounded. If you were a "victim" of this scheme you would have had to transact dozens of times just to have the harm add up to one cent. This does not mean you are not worse off, of course, but that is beside the point. The point is that the person stealing the pennies would know that your utility level has not fallen, so you won't feel badly, so the opportunist has no bad feeling to empathize with at the margin. Increasing the number of people who are not perceptibly harmed doesn't change this result, even though it does pile up an impressive sum of money for the opportunist.

In the previous chapter, I explained why we might be naturally inclined to obey moral prohibitions that provide moral restraint in those instances where prudential restraint derived from repeat play effects, social relations, or formal institutions is insufficient. In this chapter I now explain why, to be effective in large groups, the actual content of moral beliefs also matters. In short, our implicit moral theory for why it is wrong to disobey moral prohibitions must go beyond the
consequences our actions have on the welfare of others, because in large groups the practical effect of such consequences often disappear. This should surprise no one. Our utterly consequentialist harm-based sense of moral restraint has no reason to work well in large group contexts, because it evolved in very small social groups.

A Model of the Empathy Problem

In many cases, opportunistic actions impose harm that is spread among the members of an entire group. For example, when a team member shirks, the harm may be spread among all team members in the form of lower total output. When a person embezzles money from a corporate firm, the harm that results is borne by all of the firm’s shareholders. When a person exaggerates a deduction on his income taxes, the harm that results is borne by all of the nation’s taxpayers.

Let’s therefore consider a single act of opportunism whose harm is spread equally over all of the members of a group. As we consider groups of increasing size, the number of individuals over which the harm from a given negative moral action is divided is increased. Obviously, for any single act of opportunism undertaken by B, the harm experienced by any other individual with whom B can empathize grows closer to zero as n grows larger. At some point the harm done is imperceptible, so the common query, “Who’s it going to hurt?” can be honestly answered, “No one.”

The golden rule is often touted as the ultimate moral calculus. The golden rule demonstrates the power of empathy. But even the golden rule is susceptible to the empathy problem. If by doing x, person B is able to promote his welfare and harms no one in the process, he can rationalize that were he an “A” (someone in the group over which the cost of opportunism is spread) he would not be harmed, and therefore would not object. This is indeed what happens when someone supports another’s cheating of an insurance company because “nobody gets hurt,” even though that supporting individual pays premiums to or owns stock in the company being scammed. The crux of the problem is that insurance premiums will not rise and stock prices will not fall—not even by one penny—because of that particular instance of cheating.

Note also that harm-based moral restraint disappears in such cases, regardless of how prone an individual is to feeling guilty (that is, no matter how large the g(x) term is). This implies that inculcating a stronger predilection for feeling guilty does not solve the problem, because it one’s theory of wrongfulness is based solely on harm, then being culpable for an action that produces no harm means there is nothing to feel guilty about. So no matter how large g(x) is, if n is sufficiently large, and harm is spread evenly over all members of the group, B will know he is responsible for the outcome but will not feel not feel guilty about it.

For negative moral acts, x, undertaken in a group of size n, we can incorporate the discussion above into the model by rewriting net utility as:

\[ V(x, n) = U(a(x)) - C(x, n) = U(a(x)) - g(x)h(x, n), \]

where \( h(x, n) = \theta \mathbb{E}[U(x, n)] \), the relevant perceived harm to A given B’s concern for A’s welfare (\( \theta > 0 \)). Recall that since we are limiting our attention to golden opportunities, we ignore the expected cost of retaliation or a ruined reputation. The key point is that U(a), which accounts for the benefits of undertaking an opportunistic action, is not a function of n, but h(x) is. As the number of people over which harm is spread increases, the harm suffered by any individual with whom the opportunist can empathize vanishes, so cost in the form of experiencing feelings of guilt vanishes. Again, how much one cares about the individuals involved is irrelevant, because if they cannot even perceive a change in welfare, then clearly no harm has come to them. How prone one is to feeling guilty is similarly irrelevant. Note that this result does not require any heroic assumptions about the nature of individual preferences or knowledge of preferences. One need not know the utility function for every individual to know that as \( n \to \infty \) moral restraint vanishes, if one’s moral restraint is ultimately derived from feelings of sympathy and guilt derived from doing harm.

Let us now consider how you might actually think through the rationalization of opportunism when empathy effects are driven to zero. You really want something, but to get it you have to do x. You don’t want to do x, because x is a negative moral act and, being a moral person, you try to stick to moral rules of thumb. You know that when you deviate from moral rules of thumb you normally feel guilty. So you generally don’t do things like x because of the feelings of guilt you expect to experience.

But wait a minute. Why do you regard x as wrong in the first place? If you regard it as wrong solely because of the harm it normally causes—because your implicit moral theory of wrongfulness is solely harm-based—then things you deem as wrong are wrong because they harm others. If you know with certainty that no one will be harmed by doing x, in this particular circumstance, then even though doing x is generally wrong, and a prohibition against doing x is therefore a good rule of thumb, the spirit of the rule is not violated by doing x, in this instance because clearly no one will be harmed. Given your implicit moral theory of wrongfulness, this is clearly a valid exception to the rule. This does not mean x drops from the list of negative moral acts. You still understand that doing x is generally wrong. It simply means that in this instance you believe that you are confronted with a genuine exception to the moral rule of thumb. Doing x, therefore, simply does not feel wrong in this instance. After all, who’s it going to hurt?

You might even still feel a little guilty about doing x, because of your habit of mind, but you will experience far less guilt than if you knew your actions would actually harm someone. As long as the utility loss from experiencing that twinge...
of guilt is outweighed by the utility gain from the spoils of undertaking $x_t$, you will still undertake $x_t$. This example is precisely the problem we face in large groups. As a rule of thumb we regard $x_t$ as a negative moral act. As such, we think it is wrong and we know we are not supposed to do it. We don’t give much thought to why we believe it to be wrong. But if we believe that what makes $x_t$ wrong in the first place is solely the harm it causes others, then in a circumstance in which no person is harmed (taking paper home from our large employer) we have a clear exception to our moral rule of thumb against doing $x_t$.

This has important implications for opportunistic behavior in general. All opportunistic acts ultimately involve taking advantage of a trust. Taking advantage of a trust is a negative moral act. We don’t give much thought to why we believe this, but in reality this carries moral force with most people because taking advantage of a trust nearly always results in harm. As a result, a general prohibition against taking advantage of a trust is a moral rule of thumb in all societies. But if your implicit theory of morality maintains that wrongfulness is itself ultimately derived solely from a prohibition against doing harm, then if taking advantage of a trust in a particular circumstance is expected to harm no one, you will believe that you are confronted with a genuine exception to the rule. You therefore won’t feel very guilty, in that instance, about behaving in an opportunistic manner.

This result is hardly shocking or surprising. It comports with our personal life experiences and is exemplified repeatedly in our literature. In *The Adventures of Huckleberry Finn*, for example, Huck’s acts of complicity with petty con artists show that his moral restraint was largely limited to his natural reluctance to harm others. So as long as the con artists harmed a great many by very little, his conscience was not terribly burdened. But when the king and duke were going to take everything left to a man’s daughters and nieces, it was too much for him to bear. Why? In this case he could directly empathize with the harm he was doing to actual people because the harm was no longer divided over many people.

Given his willingness to mock those driven by facile eagerness to obey rules, I suspect Mark Twain would have us believe that a man whose conscience is driven by rules rather than sympathy is a less moral man. I would be inclined to agree, as far as that goes. But we will find shortly that while the *sine qua non* of our basic decency may be ultimately derived from sympathy actuated by empathy, this is merely the foundation for a decent society as a whole. A foundation does not a house make, and we will soon find that because of the empathy problem, harm-based moral restraint is simply not enough for a society to enjoy the full fruits of prosperity.

As was pointed out in Chapter 2, even if a single opportunistic action undertaken by a single opportunist inflicts no perceptible harm at the margin, when everyone believes as an opportunist great harm is done to everyone. When every employee of a large firm embezzles just a little, the cumulative effect is devastating. The crux of the problem is that at no individual has the power to change the outcome through his own moral restraint. Indeed, any single opportunistic act taken by an individual does not by itself bring about the general result. As we saw in Chapter 2, opportunism is a pervasive problem for human societies precisely because it is often quite rational, given the nature of the incentives involved.

The empathy problem makes matters worse, because when $n$ is very large it is often the case that there isn’t any perceptible harm done to any victim. But if everyone always behaves opportunistically when they think they can get away with it, then the combined effect is devastating. It can be rational yet harmful because, as demonstrated in Chapter 2, that is the nature of the commons dilemma associated with opportunistic behavior. The effect that the empathy problem has on the commons dilemma problem, in terms of its canonical matrix payoffs, is presented in the Appendix.

**TWO ILLUSTRATIONS OF THE COST OF THE EMPATHY PROBLEM**

To see how a diminished ability to empathize with harmed individuals can reduce general prosperity, let’s first consider what happens when firms are limited in size because moral restraint is solely harm-based. Suppose that for firms of size $n > n^*$ workers, empathy effects are so weak that behaving opportunistically is generally optimal for workers, so agreements to refrain from opportunism inevitably break down or the reasons discussed in Chapter 2. Now suppose that each of two societies is made up of 100 individuals and they produce one good, whose output is measured by Q. Suppose it is more efficient to produce a great deal of this good in one firm than it is to produce a small amount in many smaller firms. In other words, bigger is better, as argued by Adam Smith and as discussed in Chapter 3. To reflect this, let $Q = L^2$ in both societies, where $L$ is the number of workers. Increasing returns is reflected by the exponent on $L$ being greater than one. Now suppose that in the first society, people are unable to solve the empathy problem for firms larger than 10 individuals so $n^* = 10$. In the second society, the empathy problem is better solved so groups can be as large as 100. In the first society output is $10(10^2) = 1000$. In the second society output is $1(100^2) = 10,000$. If the first society could solve its empathy problem as well as the second society has, then its output would rise tenfold.

Here is another example. I used to frequently get advertisements for cable television splitters that enable one to get premium channels for free. Since the signal is being sent anyway, the marginal cost imposed on the cable company is zero, so I would not harm anyone if I were to buy the splitter. Suppose everyone is willing to pay $30 a month for premium cable channels. Suppose the cable company has to pay the premium channel suppliers a flat fee of $100,000 per month for the right to provide these channels, and it charges $20 per month to its customers. If all 10,000 people in the subscription area want the premium channels, then the cable company can profitably promise what all the customers want and are willing to pay for. What costs the cable company $100,000 a month to provide, it can sell for $200,000 a month to its customers.
Now suppose anyone can buy a cable TV device for $50 that allows free access to premium channels with no chance of detection. If moral restraint is solely harm-based in nature, then no one would pay the $20 per month to buy the premium channels—they would all buy the device because it pays for itself in three months. But in this case, the cable company will not be able to cover the $100,000 it needs to get the signal in the first place, so the result is that no one gets the premium channels. This leaves everyone worse off (the cable company makes no additional profit, and each customer fails to get something for $20 per month that is actually worth $30 to him). To argue that harm is in fact done in equilibrium is to completely miss the point about why social dilemmas in general are so daunting. An individual’s decision to buy a device for himself does not bring about the terrible outcome, because at the margin the loss in revenue is not sufficient to cause the cable company to terminate premium channel service.

Other Problems Associated with Harm-Based Moral Restraint

DIFFERENCES IN INCOME OR WEALTH

Harm-based moral restraint likely weakens the richer is the victim relative to the opportunist and/or those benefited by the opportunist’s act. If utility is diminishing with respect to income and wealth, then the richer is the victim, the less the victim is harmed for any given amount taken. For this reason, it is simply difficult to empathize with those who possess much more wealth or earn much more income than we do. Consider a poor man who robs a billionaire of $10,000. If his moral restraint is derived solely from a reluctance to harm others, then he will not feel particularly guilty, because he knows the reduction in the billionaire’s wealth is imperceptible to the billionaire. But even though he is poor himself, he might feel terribly guilty about cheating a homeless person out of $10. Moreover, the more disparities in income/wealth are believed to be random or the winnings of a zero-sum game, the easier it is to rationalize theft. In other words, empathy/guilt effects are reduced by such beliefs—we wouldn’t likely feel as guilty about stealing what is believed to be either an arbitrary or possibly ill-gotten gain.

This may present a problem for poor people who want to move up the income ladder, because it makes it hard for rich people to trust them. If (rich) A believes that (poor) B’s moral restraint is solely harm-based, then A will not genuinely trust B unless he has a strong personal connection to B. Since many high-paying jobs and careers require being genuinely trusted by others, this can be a daunting impediment to economic advancement by those who are poor. To the extent that poor people are discriminated against in this way, poor people are more likely to become discouraged and demoralized, concluding that “the system” is unfair and thereby more easily rationalizing future opportunism.

DIFFERENCES IN TIME HORIZON

The ability to empathize with others can also be weakened when the benefits of opportunism are realized in a time horizon that differs from the time horizon over which harm is experienced by victims. In the 1980s many people who were otherwise moral copied computer programs purchased by others even though doing so was illegal. The problem was that when people copied software it harmed no one at that margin. The cost to software producers of a single individual copying their software is essentially zero to them, so that individual knows he has not harmed them in any way. No harm was suffered by the software manufacturer, so there was no one to empathize with and therefore nothing to feel guilty about. To those who lacked a principled reluctance to copy software illegally, it simply didn’t feel wrong.

But doesn’t the software firm lose the profit it would have otherwise earned? The answer is no, if the opportunist can convince himself that he would not have otherwise bought the product. This, of course, is an easy thing for an opportunist to convince himself of, and he has ample incentive for doing so. Moreover, even if the opportunist knew that he was willing to buy the software at the market price, he could rationalize that the software firm could have improved his welfare at zero marginal cost, but refused to. Instead, the firm engaged in what the individual regards as opportunistic hold-up, by making him pay for something that costs the firm nothing to give away by allowing unlimited copying.

We have all heard this kind of rationalization before and many of us made such rationalizations in our youth. It is a fallacious rationalization, of course, because it considers the issue in an artificially narrow way (if everyone copies software illegally, then, similar to the earlier example about cable splitters, software creation becomes an unprofitable business so we all are harmed by not having software produced). One does not have to be evil to make such rationalizations—one need only desire the object and possess an implicit theory of morality that fails to make it feel wrong.

FIXED VERSUS VARIABLE COSTS

A closely related problem is political opportunism that takes advantage of the fact that most voters do not understand the distinction between fixed and variable costs. If we possess only harm-based moral restraint, then the benefits that accrue to society from the production and sale of high fixed-cost, low variable-cost goods, such as drugs, will disappear if such goods are under-produced because government only allows drug companies to charge a small amount above variable costs to keep the company from going bankrupt. The problem is that such a policy often results in revenues falling far short of covering prior development costs.

This is essentially an act of social bait and switch. The firm makes long-term investments because it believes it will make large profits over many years, only to
discover that once the investment is in place the government delivers a political benefit to voters who are eager to rationalize a policy that reduces current drug prices. The problem is that once this lesson has been learned by drug companies, investment in developing new drugs drops dramatically, so products we can’t even yet conceive of fail to ever emerge. Political opportunists are never held responsible, because no one misses drugs that never came to be.

The problem is really that the time scales over which the decision is made to buy or illegally copy software, or to buy a drug, is different than the time scales over which investments are made that make software or drugs possible. In the moment of opportunist appropriation, the assets are fixed and therefore moot. If people could, at that moment of self-serving rationalization, fully appreciate the entire time scale associated with production of these kinds of goods, then it would no longer appear to them that the marginal cost imposed on the seller of their actions is zero.

COUNTERFACTUAL LOSSES

Our ability to empathize and therefore sympathize with others is also diminished when harm is counterfactual in nature. Suppose B undertakes an act that does not reduce A’s welfare from what it is presently, but fails to increase it by as much as some other action would have. In many cases we are not obliged to increase the welfare others, and certainly not to increase it as much as possible. But in cases where, in return for something of value like a job, B has promised to do his best to maximize A’s welfare, then failure by B to take the most beneficial action because a different action produces more benefits for B amounts to renegoting on a contract. As such, it is an act of third-degree opportunism as defined in Chapter 2.

The reason why empathy effects are likely to be low or nonexistent with respect to counterfactual harm is that it is hard to think of a person as being harmed when his welfare has not been reduced, and it is especially hard when his welfare has actually been increased. In this case, harm does not fit the normal pattern of cause and effect (B does x to A [cause], therefore A’s welfare falls [effect], so it follows that B harmed A by doing x). Suppose, for example, that a store manager considers taking advantage of an opportunity to steal $500 from the store’s owner. This was the kind of moral dilemma faced by Ethel Allen Hawley in John Steinbeck’s The Winter of Our Discontent. If he is the manager of a very small store, empathy effects are generally strong enough to keep the manager from stealing directly from the store’s owner and thereby reducing his welfare.

But suppose the manager could choose actions x, or x*, in response to an event, and neither action is known to the owner, as the choice constitutes local knowledge possessed only by the store manager. What if x, and x* solve the problem so well that in both cases profit rises, but x* makes it rise even more than x, while x* produces more benefit to the manager than x? In this case, the harm done to the owner by the manager’s choice of x is counterfactual in nature, so the manager might not feel guilty. His choice of x, did not reduce the owner’s welfare from what it was—indeed, it increased it. In other words, putting himself in the store owner’s shoes, he could rationalize that if he were the owner he would not be made unhappy by the outcome because his welfare would have actually been increased at the margin.

But shouldn’t the manager’s ability to empathize with the store owner lead him to imagine himself as a store owner, and conjecture that if he were, he would want the manager to choose the most profitable action? Perhaps. But this alone is not enough to produce harm-based moral restraint. Unless the difference between x, and x*, is large, it is still the case that there will be little harm to sympathize with, and therefore feel guilty about. In some cases, of course, the level of sympathy the store manager has for the owner might be so great that the manager will always choose the most profitable action. This is certainly plausible if the store manager and owner are very close, which may explain why in most of the world a store owner will only delegate significant decision-making discretion to a relative or close friend.

The weak or nonexistent empathy response to counterfactual harm is of particular relevance to the use of relational contracts for which third-degree opportunism is a problem. Recall that the larger is the firm, the more localized is knowledge and therefore the more important are relational contracts. But relational contracts create innumerable opportunities for third-degree opportunism that produce harm that is often only counterfactual in nature, because the self-serving action still increases profit at the margin.

In large firms that are crucial for achieving general prosperity, the use of relational contracts is particularly important to deal with the local knowledge problem in a way that supports entrepreneurial decision making throughout the firm. But the local knowledge problem that occasions their use and the flexibility they afford produces many more opportunities for third-degree opportunism than otherwise—many of which produce only counterfactual losses. In such cases if moral restraint is based solely on a reluctance to do harm, then moral restraint will be virtually non-existent.

Solving the Empathy Problem

Most humans have understood for a very long time that there are tremendous benefits to being able to organize social, political, economic, and military activity in large groups. In Chapter 3 I explained why a fundamental obstacle to large group cooperation is the problem of increasingly localized knowledge. Now we know that there is another, even more fundamental problem. Since our natural, harm-based sense of moral restraint withers in large groups, humans had to address the empathy problem in order to build large civilizations.
Some moral concepts may have evolved in part, therefore, to solve the empathy problem by supplementing harm-based moral restraint. For example, before societies had formal governments they were able to organize social, political, economic, and military activity into larger groups by addressing the problem of opportunism informally. Public shaming, for example, was often used to sanction those who were caught behaving opportunistically (Lal, 1998). The possibility of having to experience shame and feelings of embarrassment drives up the expected cost of undertaking negative moral actions, even in those cases in which no one could possibly be perceptibly harmed. So a social norm of shaming those who are discovered to have been behaving opportunistically can be viewed as a means of overcoming the empathy problem.

In even larger groups, opportunism that is not suppressed by self-restraint in the form of harm-based moral restraint, or by incentive effects due to shaming, was often suppressed by institutions that either preclude it through strict routines and procedures, or deter it through prudential restraint derived from incentives produced by monitoring and punishment. These are particularly effective means of combating first-degree opportunism because it involves potentially observable acts. With first-degree opportunism, harm is usually not counterfactual in nature, as is common with third-degree opportunism.

But as successful as these approaches were, they had serious shortcomings. Shaming has little effect in a society that is so large that people are effectively anonymous. This left formal institutions to take up the slack—but the harsh punishments that were common in all civilizations just a century ago are, for the most part, politically impossible in modern democratic societies. Judges and juries are normally inclined to punish opportunists in proportion to the damage done to people (judges and juries are, after all, hardwired to automatically conjecture that such punishment is just). This means that for expected costs to be sufficiently high to discourage opportunism, the reduction in harshness of punishment must be made up for by increasing the probability of detection. But in many poor societies this is simply not possible.

An even more fundamental problem is that of third-degree opportunism. Relational contracts are the key to addressing the problem of local knowledge in large groups, but relational contracts are highly susceptible to third-degree opportunism, which is by nature largely beyond the reach of institutions. This means that societies that are limited to relying on institutions to combat opportunism will face a tradeoff between firm size and the efficient use of local knowledge and, therefore, a tradeoff between the benefits of scale and the benefits of entrepreneurial rather than bureaucratic direction throughout firms. As I noted in Chapter 3, this may explain why most civilizations have been able to produce large organizations or entrepreneurial organizations, but not large and entrepreneurial organizations.

In Chapter 4 I argued that moral restraint could provide a way out of this problem. Recall that agents will not, by definition, be discouraged from acting on golden opportunities if their restraint is solely prudential in nature. Moral restraint overcomes this problem—it does not even require the possibility of detection because moral restraint is internalized. This renders moot the inability to detect golden opportunities. But in this chapter I have shown why even moral restraint is not necessarily enough. This is because if moral restraint is based solely on a reluctance to do harm, it will often wither in large group settings.

Can't societies circumvent this problem by dividing large groups into many small groups? Rubin (2002, p. 125) has pointed out that in large groups we tend to divide ourselves into smaller groups. Within large firms, for example, many workers are organized in small teams. Could this be the result of a need to solve the empathy problem through subdivision of large groups into smaller ones to actuate our natural, harm-based sense of moral restraint? Kandel and Lazear (1992) have indeed argued that this may be explained as an effort to harness the power of guilt to minimize shirking. By having some of each team member's reward earned at the team level, and also keeping the team small, shirking noticeably harms one's teammates—thereby actuating harm-based moral restraint.

But shirking is only one form of opportunism, and it is not even the most problematic form, since it can often be addressed with external mechanisms that don't weaken with group size. As we learned from Chapter 3, the most problematic form of opportunism in large organizations is third-degree opportunism, since it usually cannot be addressed by external mechanisms and it can potentially make the use of relational contracts impossible. Dividing workers into teams is especially impertinent to the problem of third-degree opportunism for a decision maker in a very large firm. This is because harm is generally counterfactual in nature, so in many cases not choosing the best possible action does not actually reduce any team member's welfare from its current state.

Moreover, the empathy problem has little to do with the size of the group within which cooperative production activity takes place. What really matters is the size of the group over which the costs of opportunism are spread. Dividing workers into teams will do nothing to limit opportunistic consumption of health insurance that is provided by the firm, or to limit petty theft from other units of the firm. So while dividing workers into teams may deal with some forms of opportunism, particularly shirking, it does not come close to fully addressing the empathy problem.

The most obvious means of effectuating moral restraint that is strong enough to address the empathy problem is to drive up regard for others. We generally do not, after all, take advantage of those we care deeply about. In a recent book, The Empathy Gap, J. D. Trout (2009) makes essentially this argument, echoing a common view that appears to be gaining in popularity. So couldn't a sufficiently strong desire to be a nice person overcome this problem? A desire to be nice certainly makes one more willing to undertake positive moral actions and less willing to undertake negative moral actions. As such, it could induce people to try to be
more empathetic, so they are nice to greater effect. But if one's unwillingness to take negative moral actions is based solely on a reluctance to harm others, then if no one is perceptibly harmed, we are right back to the empathy problem.

With no perceptible harm there is nothing to empathize with, no reason to feel sympathy, and therefore no reason to feel guilty. Therefore increasing B's regard for others in general, by increasing \( \theta_s \) (the lower bound for \( \theta \) in a given group), does not solve the problem. If no one is perceptibly harmed in the first place, then the level of sympathy for others is simply irrelevant so driving up \( \theta_s \) is irrelevant—the harm-based moral restraint story never gets off the ground. Driving up regard for others doesn't change the fact that our natural sense of moral restraint breaks down precisely where it is needed most—economic activity organized in the context of large groups.

So moral restraint is not enough—the kind of moral restraint people have also matters. Harm-based moral restraint is clearly insufficient in many large group settings. Is there some other way to make people reluctant to undertake negative moral acts when they believe there is little or no chance of being caught? One possibility would be to teach people moral beliefs that compel them not to undertake negative moral acts because they believe undertaking them is wrong as a matter of principle, and is therefore wrong irrespective of the harm they may do to others. This would produce what one might call principled moral restraint.

### Principled Moral Restraint

My claim is that if the empathy problem is not addressed, it presents a daunting obstacle to the process of economic development and thereby impedes the maximization of general prosperity. The good news is that it can be plausibly overcome with moral beliefs that deem undertaking negative moral actions as inherently wrong, and therefore wrong as a matter of principle, and therefore wrong even if no harm is done to others.

Principled moral restraint is particularly relevant to combating the problem of opportunism. One generally recognized negative moral action is that of breaking one's word. If no one ever broke his or her word, including when it is implicitly given in the context of a social contract, then opportunism simply ceases to be a problem for society. But even if breaking one's word is recognized as being generally wrong, if the implicit theory of wrongfulness is based on harm, and in particular the implicit theory of wrongfulness is based on harm, and in particular instance no one is perceptibly harmed, in that instance breaking one's word won't feel wrong. It will feel like a legitimate exception. The key to solving the problem of opportunism in a general way, then, is to make breaking one's word always feel wrong because it is inherently wrong and therefore is wrong as a matter of principle.

But regardless of the nature of the arguments that might be made for having principled moral restraint, such restraint must ultimately be effectuated through the psychological mechanisms humans actually have—otherwise, we risk developing a theory of moral restraint that is based on unsound assumptions about human behavior. This is why I carefully developed a theory of moral restraint based on wired moral intuitions in Chapter 5. I will now explain how principled moral restraint can plausibly work through a psychological mechanism that humans already possess: feelings of guilt attached, by moral beliefs, to negative moral acts themselves. This is not an heroic assumption—just ask anyone who foregoes an opportunity to improve his own welfare when he could have done so with no chance of detection, and without harming anyone else, and invariably that person will say something like "...honestly, it didn't even occur to me, but even if it had, I still wouldn't have done it because it would have been wrong."

If the feelings of guilt an individual expects to experience from doing something he believes to be wrong as a matter of principle are sufficiently strong, then the resulting guilt cost will make undertaking any negative moral act irrational, even in such a large group that harm-based moral restraint is rendered inoperative. This can be added to our model of rational opportunism in a very straightforward way. Recall that if moral restraint is solely harm-based, and therefore solely consequentialist in nature, net utility can be expressed as:

\[
V(x, n) = U(z(x)) - C(x, n) = U(z(x)) - g(x)h(x, n).
\]

Recall that as \( n \) grows larger, the effect on \( U() \) of undertaking \( x \) is unchanged, but the cost of experiencing feelings of guilt vanish. In this case, the commons dilemma associated with opportunism can only be overcome with external mechanisms, and those mechanisms will inevitably prove insufficient to provide moral restraint with respect to golden opportunities.

We can now incorporate principled moral restraint to solve the empathy problem directly, thereby alleviating the problem of third-degree opportunism in large groups such as large firms. Suppose people possess moral beliefs that attach feelings of guilt to the decision to undertake negative moral actions irrespective of harm done to others because, according to their moral beliefs, disobeying moral prohibitions against negative moral actions is wrong as a matter of principle. In this case there is a separate channel of guilt, so we must distinguish between guilt derived from being responsible for having done harm and guilt derived from the act itself. Such a nonconsequentialist source of guilt can be added, as follows, with a term that reflects guilt associated with negative moral acts irrespective of harm; that is:

\[
V(x, n) = U(z(x)) - g(x)h(x, n) - g^p(x).
\]

The main point is that while \( g \) can often be rendered moot by a sufficiently large \( n \), \( g^p \) is unaffected by \( n \) because this form of guilt is attached to the act itself. This can
dramatically reduce the risk of opportunistic exploitation in the context of large groups. The \( C(x, n) \) term now becomes

\[
C(x, n) = g(x)\theta_1 E[\Delta U_1(x)] + g(x)\theta_2 E[\Delta U_2(x)] + \ldots + g(x)\theta_n E[\Delta U_n(x)] + g^*(x).
\]

But for \( n > n^* \), we have:

\[
C(x, n > n^*) = g(x)\theta_1[0] + g(x)\theta_2[0] + \ldots + g(x)\theta_n[0] + g^*(x) = g^*(x).
\]

Obviously, if \( g^*(x) \) is sufficiently large for a given individual, then it will be irrational for that individual to undertake negative moral action \( x \), regardless of how large \( n \) is. Therefore, the empathy problem can be solved through moral beliefs that tie guilt directly to \( x \) by making \( g^*(x) \) sufficiently high. By doing so, the commons dilemma associated with opportunism disappears.\(^{13}\) It follows that from society's point of view, a key to enjoying the lowest possible transaction costs is to make \( g^* \) as high as possible, for as many people as possible, over the largest set of negative moral actions possible. Of particular importance would be to make \( g^* \) as high as possible for the negative moral act of breaking one's word, as this provides an overarching mechanism to combat all forms of opportunism.

An obvious way to drive up \( g^* \) is to drive up moral conviction. One does not need much conviction to obey hardwired moral intuitions because in normally functioning adults, their gut already tells them that hurting others is wrong. Abstract moral ideas that provide the basis for believing that a given type of act is inherently wrong, however, likely require much more conviction because our hardwired moral intuitions give us little to go on. It is one thing to refrain from stealing \( $10,000 \) because you are not willing to harm another person. It is quite another to refrain from stealing \( $10,000 \) if you know with certainty that no specific person—not even a complete stranger—will be harmed in any way. In this latter case, if one knows one cannot be detected, one must, with great conviction, believe that stealing is inherently wrong if sufficient principled moral restraint is to be effectuated.

Religious beliefs can obviously play a role in driving up conviction, and perhaps this may be one reason why religion is such an important part of human history.\(^{14}\) It may also be a reason why, in large societies, religions are noticeably more abstract and value oriented.\(^{15}\) Many religions deem \( x \) to be wrong because God said it is wrong. Since God is the ultimate moral authority, such a pronouncement makes it inherently wrong, and therefore wrong as a matter of principle, and therefore wrong even if no harm is done. Religious beliefs could have also improved the function of formal institutions by providing a moral basis for meting out punishments that are excessive given the nature of the transgression, but that are necessary given the difficulty of increasing expected costs through increased probability of detection. It is easier to hang someone for a minor crime if you believe it is your moral duty to do so because God commands that you do so.

A person goes beyond the consequentialist, harm-based approach to moral restraint when he adds a nonconsequentialist, principle approach to moral restraint. He regards the act as being wrong as a matter of principle and therefore feels guilty about undertaking the act even if no one is harmed in any way. But if the expected guilt cost is nevertheless low, and the benefit arising from opportunism is high, then he will still act in an opportunistic manner—even though the reason for feeling guilty was that he believed the act was wrong as a matter of principle. In short, principled moral restraint does not necessarily imply sufficient moral restraint to fully discourage opportunism.

This is very realistic. Even criminals who defend their actions by arguing that no one was harmed will often agree that what they did was still wrong as a matter of principle and that they feel some guilt for having done it. But they did it anyway because they wanted what they wanted so badly. The expected utility gained from the expected payoff of the opportunistic act simply outweighed the expected utility lost from experiencing feelings of guilt for having done wrong.

### Conclusion

Our ability to empathize and therefore sympathize with others is not just the basis of our natural sense of moral restraint—it is the very foundation of basic human decency. It is a deep part of who we are. I personally find great comfort in the idea that an important part of our goodness is written in our genes.

In Chapter 3 I argued that prudential restraint effectuated by externally produced incentives is not enough to minimize transaction costs and thereby maximize general prosperity. To most fully deal with the local knowledge problem, it follows that moral restraint is also required to overcome the problem of third-degree opportunism because relational contracts open the door to third-degree opportunism.

In this chapter I have argued that even moral restraint is often not enough because harm-based moral restraint is not scalable. This is because the larger is the group over which the costs of opportunism are spread, the more likely no actual harm is done to anyone with whom we can empathize, sympathize, and therefore feel guilty about harming. If moral restraint is solely harm-based, it winds up withering in the large groups whose local knowledge problems occasioned the need for relational contracts in the first place. Because of the empathy problem, to discourage opportunism where doing so matters most—in the context of large group economic activity—we need more than harm-based moral restraint. We need principled moral restraint. This again points to the fact that we should not take too much solace from naturalistic arguments made in books by thoughtful authors such as Fukuyama (1999), Hauser (2006), Shermer (2008), and Trout (2009). The universal factors they seek in their efforts to explain moral behavior are very important, but they are simply not enough.
This chapter is titled "The Empathy Problem" and not "The Sympathy Problem" for a very good reason. Contrary to what many modern moral theorists appear to believe, a high trust society cannot be produced by simply increasing our regard for others. How much we care about others is simply irrelevant if no harm is done to them in the first place. Therefore, striving to increase moral earnestness by driving up the θ, and go terms for all members of society is a misguided application of small group thinking to a large group problem. Indeed, in Chapter 8 I will explain why attempts to produce moral restraint by increasing moral earnestness may actually backfire, if moral restraint is limited to that which comes most naturally to us.

Finally, let me emphasize yet again that the discussion above should in no way be taken to suggest that our ability to empathize and sympathize with others is not important. Empathy and sympathy are not enough to achieve a large and generally prosperous society, but they are absolutely essential to having a decent society. While general prosperity requires moral sensibilities based on abstract moral ideas, the greatest horrors of human history were made possible by leaders that used abstract ideas to supersede what their citizens' natural moral instincts told them very clearly was wrong.

Appendix

Recall from the Appendix of Chapter 2 that the canonical commons dilemma game is given by the following: 16

Table 6.1 The Commons Game

<table>
<thead>
<tr>
<th></th>
<th>Fewer than M others defect</th>
<th>Exactly M others defect</th>
<th>More than M others defect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual cooperates</td>
<td>COOPERATE + REWARD</td>
<td>COOPERATE + REWARD</td>
<td>COOPERATE</td>
</tr>
<tr>
<td>Individual defects</td>
<td>DEFECT + REWARD</td>
<td>DEFECT</td>
<td>DEFECT</td>
</tr>
</tbody>
</table>

All n players get a REWARD as long as there are no more than M defectors, but the payoff that defectors get (DEFECT) is always higher than the payoff obtained by those who cooperate (COOPERATE). However, every player is better off if they all cooperate than if they all defect, because COOPERATE + REWARD > DEFECT. The existence of a REWARD payoff term produces a kind of "tipping point" equilibrium, in that when a sufficiently high proportion of the population is not opportunistic, there are qualitative changes to society that produce a significantly lower level of transaction costs generally. The problem is that any individual nevertheless does better playing DEFECT. So what’s rational at the margin is what produces the worst outcome in equilibrium.

An important but heretofore unrecognized element of the commons dilemma problem associated with opportunism is that because of the empathy problem, the absolute number of players, n, can affect the payoffs. Specifically,

1. The smaller n is, the more likely it is the case that:
   a. Choosing COOPERATE is self-enforcing so there is no dilemma in the first place.
   b. Choosing DEFECT will significantly harm some persons and the resulting guilt costs will be sufficient to drive the net payoff of choosing DEFECT too low for DEFECT to be the dominant strategy. In this case, harm-based moral restraint is sufficient to overcome the commons dilemma.

2. Conversely, the larger n is, the more likely it is the case that:
   a. No one will be perceptibly harmed by choosing DEFECT.
   b. If moral restraint is solely harm-based, no guilt will be experienced, and therefore the net payoff from DEFECT will be unaffected. A tragedy of the commons outcome may occur even if people are highly moral. In this case, harm-based moral restraint is insufficient to overcome the commons dilemma.
14. It does not follow that if there is a market failure to be rectified, then moral exhortations will be an efficient means of solving such problems. There are well-known mechanisms of collective action that will likely provide a more efficient solution.

15. Thinking of ethics in terms of constraints is also central to James Buchanan’s framework. Buchanan (1994, p. 63) states:

We may start from the premise that individual behavior is morally–ethically constrained. We do not behave opportunistically in each and every encounter; we do not act in accordance with some “as-if” cost-benefit reckoning, as might be made against the formal legal structure of rewards and penalties. Many of us do not steal, even if we should be certain that there is no possibility of discovery, apprehension, and punishment.

16. The exception, discussed earlier regarding positive moral actions for which failure to act is equivalent to disobeying a moral prohibition, is an exception that proves the rule, because such exceptions were based on the fact that there was no cost for undertaking the positive moral act. So it follows that the universal quality derived from zero cost is retained, even for negative moral actions that began as positive moral actions.

Chapter 5

1. Gneezy (2005) presented experimental evidence suggesting that, contrary to traditional economic theory, people consider the harm their actions may impose on others. The basic idea is that people are averse to experiencing feelings of guilt (see also Charness and Dufwenberg, 2006).

2. Frans de Waal, who has studied chimpanzee behavior and found ample evidence of empathy among chimpanzees, makes a similar argument about the importance of moral sentiments among humans. According to de Waal (1986, p. 87):

Despite Immanuel Kant’s opinion that kindness out of duty has greater moral worth than kindness out of temperament, if push comes to shove, sentiments win out. This is what the parable of the Good Samaritan is all about.

3. What follows can be regarded as a fleshing-out of the “harm principle” put forth by John Stuart Mill (1859) as a basis for limiting the ability of government to intervene in private affairs. This principle was later immortalized in Oliver Wendell Holmes’ famous quote “The right to swing my fist ends where the other man’s nose begins.”

4. As Frank (1988, p. 152) puts it:

...while specific moral norms are enormously varied and complex, they are supported by a limited number of highly uniform emotional capacities... The desire to avoid unpleasant affective states, in Kagan’s scheme, is the principal motivating force behind moral behavior. People will try to avoid actions, motives, and qualities that make them feel afraid, sorry for those less privileged, anxious, bored, fatigued, or confused. The specific actions or circumstances that trigger these emotions will depend heavily on cultural context. But the motivating emotions are always and everywhere the same.


5. Adam Smith (1759, p. 9) put it well:

As we have no immediate experience of what other men feel, we can form no idea of the manner in which they are affected, but by conceiving what we ourselves would feel in a like situation.

6. This was taken from an interview conducted by Peter Tyson (2005) for NOVA Science NOW.

7. The idea of sympathy is closely related to an idea of keen interest to social scientists ever since the publication of Trivers (1971) and Axelrod (1984)—the idea of reciprocal altruism. Biologists sometimes explain altruism through kin selection, as governed by Hamilton’s theory of relatedness, which shows that it pays to protect those who are related to us.

Chapter 6

8. See “Emotions as Guarantors” by Jack Hirshleifer (1987), Fictions Within Reasons, by Robert Frank (1988), and “If Homo Economicus Could Choose His Utility Function, Would He Want One With a Conscience?” also by Robert Frank (1987). Behavioral economists have adopted most of these ideas. The central model in Fictions Within Reasons is the commitment model, which Frank contrasts with the self-interest model.


Although guilt can be elicited by a variety of events (including simple norm violations), the central elicitor is the infliction of harm on another, whether intentional or unintentional (Hoffman 1982; Kelman and Buswell 1996).

10. For an example of an exception, see Green (2005). He found evidence that “...people not only care about their own gain from lying; they also are sensitive to the harm that lying may cause the other side. The average person prefers not to lie when doing so only increases her payoff a little but reduces the other’s payoff a great deal.” (p. 385)

11. As but one example of a very good book written on empathy alone, see Frans de Waal’s Good Natured, 1996.

12. According to Frank (1988, p. 128) even Charles Darwin...

...sketched a preliminary account of how conscience and other moral sentiments might have sprung from a general sense of sympathy. He argued that sympathy, in turn, was useful because it made a person better able to function in groups.


For primates, as for humans, to most effectively help others, one needs to understand their needs and feelings. To gauge the depth of animal empathy and social intelligence, studies focus on response to distress, self-awareness, the transmission of information, and the manipulation of relationships.

14. Intentionality is a concept from cognitive psychology that is gaining currency with social scientists generally. For example, see Douglas North’s Understanding the Process of Change (2005).

15. Many animals appear to care about others of their species, especially their offspring. Cats appear to be able to empathize with their owners but are not very sympathetic, while dogs appear to be empathetic and sympathetic.

16. The assertion that $\theta > 0$ is consistent with Gordon Tullock’s oft-quoted quip that nearly everyone has a nickel’s worth of concern for his fellow man. This quip was made, presumably, to emphasize that minor acts of kindness are easily explained in terms of their low cost.

17. Note that I am not arguing that every single individual has $\theta > 0$. I am only pointing out the obvious—most of us take a small amount of pleasure in the well-being of our fellow man, even strangers; this made good evolutionary sense, because it helps keep us out of trouble.

18. The epilogue of 8 reflects the fact that not everyone would have the same guilt response with respect to a given act, taken at the expense of given person, in a given circumstance.
4. Although I didn't know it at the time I developed the model below, some of the basic ideas involved had already been addressed long ago in a fascinating paper by James Buchanan (Buchanan 1965).

5. Mathematically, as $n \to \infty$, $AU(x/n) \to 0$ and therefore $g(\theta) = [AU(x, n)] \to 0$.

6. Now it may be true that if everyone did $x$, all the time, it would produce measurable harm, but you are not proposing that. Your doing $x$, in this instance does not constitute everyone doing $x$, all the time, or even everyone always doing $x$, in this instance.

7. Hunt (2007) argues in *Inventing Human Rights: A History* that novels had a dramatic effect on human rights. Her argument illustrates the power of empathy. By reading stories of harm done to others, we identify with them and are compelled to feel as though the event directly involved us. The more engaging the story and the more realistic are the characters, the more strongly our sense of empathy is aroused. Echoing this sentiment, Richard Rorty (1989) explained in *Contingency, Irony, and Solidarity* that "books...help us become less cruel."

8. One might object that the exponent of 2 is unrealistically high, but that is mistaken. The increase in output actually compares well with Adam Smith's example of the pin factory (recall that in his example, productivity per worker increased by nearly 24,000%). Such an increase in productivity would require an exponent larger than 4. If Adam Smith was right about the importance of organizing economic activity in large groups, it pays handsomely to address anything that limits the size of groups within which production occurs.

9. If, instead, I believe that people who earn or save lots of money do so because they either work very hard and/or have made large investments in their own human capital, then stealing from them is not taking something that just as easily could have been mine to begin with; it amounts to stealing the most precious thing any human has—his time.

10. It is not surprising that we might have this reaction. Through most of our evolutionary history, an unwillingness on the part of A to promote B's welfare, when doing so costs A nothing, was likely interpreted by B as a signal of hostility. Given the potential unforeseen benefits of reciprocity, B knows that A's dominant strategy is to promote B's welfare in such cases.

11. Another contributing factor to there being a weak response to counterfactual losses is that we generally don't know with certainty what the alternative gains would be, so we must estimate them. Since that estimate is a subjective one made by the person who possesses the relevant local knowledge, it is easy to see how someone can convince himself that while the potential counterfactual cost is high, the expected counterfactual cost is less so, because we don't know for certain.

12. Ken Binmore (2005) has rightly stressed the inadequacies of moral theories based on what he calls "philosophical skyhooks," which are nothing more than bald assertions without scientific basis. He advocates a naturalistic approach, which requires analyzing moral behavior via the psychological mechanisms humans actually have, not those that moral philosophers tell us we should have.

13. In more detailed terms as used in the Appendix, suppose that $n$ is so large that harm-based moral restraint is zero, producing a "tragedy of the commons" type of outcome. If we add sufficiently strong principled moral restraint, then the dilemma is eliminated completely for any $n$, no matter how large. This is because with sufficiently strong principled moral restraint, $g$ is pushed so high that the net payoff for $DEFEAT$ will be too low for $DEFEAT$ to be a dominant strategy (indeed, $DEFEAT$ can even become negative regardless of $n$). This means it is never rational to choose $DEFEAT$, regardless of what anyone else does and regardless of $n$, so the commons dilemma simply disappears because a necessary condition for the commons dilemma to exist is that $COOPERATE < DEFEAT$.


15. Religious beliefs in primitive, small group societies are largely preoccupied with explaining the physical world and with curing favor with the gods for better treatment. Comparatively speaking, the religions of modern large group societies are very preoccupied with matters of right and wrong.

---

Chapter 7

1. An example of such "black and white" thinking as it relates to morality is honor codes such as exist at the U.S. military academies where the remedy is expulsion, while there is no such thing as a violation for failing to help anyone for anything. I thank James Buchanan for pointing this out.

2. Note that the word unconditional has two senses. It means that trustworthiness has nothing to do with how circumstances affect the likelihood of detection or the punishment if detected. In addition, it means that trustworthiness has nothing to do with how circumstances affect who is harmed or benefited, or by how much. So it is also unaffected by group size or the social distance between affected parties. It most certainly does not mean that there are never any exceptions. In Chapter 8 we will see that duty-based moral restraint provides a straightforward basis for identifying genuine exceptions.

3. According to a poll conducted by *Common Sense Media*, cheating is up dramatically but it's surprising, however, is not just the alarming number of students who say they cheat, but also the number of students who think it's OK to do so... Only about half of students polled admit that cell phone use during tests is a serious cheating offense, and just 16 percent say calling or texting friends to warn them of a pop quiz is cheating; instead, they believe they're simply helping a friend. [School News, 18 June 2009]

4. The idea that people limit their most vulnerable interactions to "circles of trust" is discussed in Frank Fukuyama's (1995) *Trust*.

5. Guiso, Sapienza, and Zingales (2006) put it thusly: "When contracts are incomplete, many deals are made just by shaking hands, which means relying on trust. An entrepreneur who works in an unstructured environment is more exposed to these types of deals. Hence, trustworthy individuals will have a comparative advantage in becoming entrepreneurs."

6. A more rigorous definition of lexicographic preferences is offered by Mas-Colell, Whinston, and Green (1995, p. 46): Define $x > y$ if either $x_i > y_i$ or $x_i = y_i$ and $x_k > y_k$. This is known as the lexicographic preference relation. The same derives from the way a dictionary is organized; that is, the first commodity in the two commodity bundles is the same, the amount of the second commodity in the two bundles determines the consumer's preferences.

7. There are, of course, exceptions. We will discuss exceptions later in Chapter 8.

8. Michael Shermer (2008), in the chapter of his book *The Mind of the Market* titled "Don't Be Evil," alludes to the imperative (the word Don't is unequivocal) to not undertake negative moral actions, over the importance of taking positive ones.


10. Note that what appears to be exceptions to this are generally those acts of omission that are de facto acts of commission. This is discussed further in the next chapter.

11. The concept of non-tuition comes from Philip Wicksteed (1910). Some take it to mean the absence of interpersonal utility effects, but in my view this is an over-reading of Wicksteed. I share Peter Klein's view that what Wicksteed had in mind was a kind of agreement to set aside interpersonal utility comparisons—to act as if we are unconcerned with the welfare of each other, even though we almost certainly are to at least a small degree. The benefit of doing so is that it focuses transactions on their marginal utility, which produces the highest level of general prosperity in the long run.

12. A fine example from as early as 480 BC is King Leonidas's Spartans at the battle of Thermopylae. Leonidas and the Spartans becomanded knew how they faced certain death by choosing to block the progress of Persia's Xerxes the Great.

13. Charles Goodnight (1836–1929) is one of the most famous ranchers of the American West. With Oliver Loving, he founded the Goodnight-Loving Trail.