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Teaching Ethics, Heuristics, and Biases

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Abstract. Although economists often model decision makers as rational actors, the heuristics and biases literature that springs from the work of Nobel Prize winner Daniel Kahneman and his late colleague Amos Tversky demonstrates that people make decisions that depart from the optimal model in systematic ways. These cognitive and behavioral limitations not only cause inefficient decision making, but also lead people to make decisions that are unethical. This article seeks to introduce a selected portion of the heuristics and biases and related psychological literature, to highlight its implications for ethical decision making, and to serve as the basis for a lecture that could inform students regarding these matters. If business actors are on guard against errors in their own decision making processes, perhaps they can avoid some of the ethical pitfalls that recently put Enron and so many other companies in the news.

Keywords: attribution theory, behavioral psychology, biases, cognitive dissonance, decision theory, escalation of commitment, ethics, framing effects, heuristics, overconfidence, rationality, self-serving bias, sunk costs.

1. Introduction

Purely by happenstance I recently found myself at two separate functions sitting next to individuals who had been convicted of white collar crimes in high-profile scandals of the early 1990s. After each event, I described both men as “the nicest guy you’d ever want to meet.” And they certainly seemed to be.

This led me to wonder why nice guys (and gals, like my students) break the law and violate ethical conventions. Certainly economists have modeled criminal activity as rational decision making involving the weighing of potential benefits of the crime against the potential punishments multiplied by the chance of detection (Posner, 1977). However, most people who break the law and breach generally accepted ethical standards do not engage in such rational calculations. Jenkins (2000) has argued that most of the principals in the latest round of corporate

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scandals (Enron, WorldCom, Global Crossing, Adelphia, Tyco, etc.) were plagued more by bad decision making than by an inability to recognize or analyze ethical dilemmas. Indeed, as Costa (1998) has noted, “[t]here are truly sinister businesspeople with sinister intentions, but, for the most part, ethical and legal lapses are the stuff of average people who know better.”

When I teach business ethics to business students in my introductory business law courses, accounting ethics to accounting students, or legal ethics to law school students in my securities regulation course, I certainly introduce them to the specifics of their particular professional code of conduct. I also attempt to sensitize students to various forms of ethical dilemmas so that they will recognize moral quicksand when they approach it, and endeavor to give the students the philosophical tools with which to analyze those dilemmas when they arise.

What I have not done a thorough job of, and I suspect that I am not alone in this, is to educate the students regarding their own cognitive and behavioral susceptibilities that might lead to (often unwitting) unethical decision making. Preaching to the students is one approach I have tried. Cheerleading (“Go! Fight! Do the Right Thing!”) is another avenue. However, I suspect that inoculating students regarding weaknesses in their own decision making processes is a superior approach. Although I have no empirical data to support this intuition, I assert here that an ethics student can profitably explore the heuristics and biases literature pioneered by recent Nobel Prize winner Daniel Kahneman and his late colleague Amos Tversky. This substantial literature contains overwhelming evidence that people do not always make decisions in a rationally optimal manner. Indeed, various heuristics and biases lead most people to systematically diverge from optimal decision making, as has been widely documented (*e.g.*, Gilovich et al., 2002, Kahneman & Tversky, 2000, Kahneman et al., 1982).

What is less often studied is the fact that many of these heuristics, biases, and related psychological tendencies can render even well-intentioned people susceptible to committing unethical and even illegal acts. With a few exceptions (Messick and Tenbrunsel, 1996; Messick and Bazerman, 1996, Etzioni, 1988), this body of thought has received insufficient attention in academic ethics literature. More to the point, as far as I am aware it has been generally ignored in the business school and law school classrooms when the subject of professional ethics is being discussed.

This paper presents information that can readily be used as the basis for a lecture introducing students to the heuristics and biases in their own decision making that could lead to unethical behavior.

2. Heuristics and Biases: Ethical Applications

In many settings people are subject to various heuristics and biases that systematically prevent their decision making from being objectively optimal. As Hastie and Dawes (2001) note, “[n]ot only do the choices of individuals and social decision making groups tend to violate the principle of maximizing expected utility, they are often patently irrational.” This section introduces several of these limitations of human cognition and illustrates their implications for ethical decision making.

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2.1. Obedience to Authority

Some of the major actors in the Enron-era scandals pleaded that they were “just following orders.” (Lehmann, 2002). People instinctively reject this “Good Nazi” defense, yet this gut reaction produces a huge disconnect in our everyday lives because all of us tend to follow authority. In an attempt to understand the Holocaust, Stanley Milgram undertook his famous experiments on obedience to authority. Although people to whom his experiment was described predicted that less than 1% of participants would obey the experimenter’s instructions to administer apparently injurious shocks to an innocent, protesting victim, fully 65% did so (Milgram, 1963, 1974). As the inaccurate prediction illustrates, most people simply do not understand the great extent to which others, and especially they themselves, are susceptible to blindly following the instructions of people in positions of authority.

Because of this inclination, people are much more likely to undertake an unethical action in the workplace when urged to do so by a superior than to choose that unethical course of their own volition. Studies by DeZoort and Lord (1994) and others show that auditors pressured inappropriately by their superiors are significantly more likely to accede to breaches of proper accounting protocol than are auditors not so pressured. Indeed, Peecher (1996) found that auditors who know that their supervisors desire them to accept the clients’ nonerror explanations for account balance fluctuations often embrace those explanations without considering a single error or fraud as an alternative explanation. Students need to be aware of this tendency so that they can guard against its potentially corrosive influence.

2.2. Social Proof

Parents are typically ill-disposed to accept a child’s plea of “everyone else is doing it” (Green, 1991; DeGeorge, 1991). However, the theory of social proof tells us that those same parents, and everyone else, take their cues as to proper behavior in most social contexts from the actions of others. In his famous experiments, Asch (1952, 1956), found that when asked to tell which of three lines is the same length as a fourth line, subjects have no difficulty whatsoever unless they are placed in an experimental condition in the presence of six confederates who gave obviously wrong answers. Almost all subjects then found it very painful to give the obviously correct answer in contradiction of these strangers’ erroneous answers and most participants gave an incorrect answer at least once. Consider how much greater the pressure to conform when the others in the group are co-employees and/or friends.

Sabini and colleagues (2001) report that the most important finding of social psychology since World War II may be just how much people’s behavior is caused externally by situations rather than internally by their own disposition. Obedience to authority and susceptibility to peer pressure are two significant illustrations of this external influence. A reading of tell-all books by Enron insiders such as Cruver (2002) indicates that many Enron employees readily bought into Enron’s fast-and-loose corporate culture without fully recognizing the ethical implications of company practices.

Social proof induces executives in one company to decide that obscenely high compensation is ethically justified because executives at competing companies are receiving similarly

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outrageous compensation, and induces managers and auditors to conclude that earnings management, capacity swaps, and other forms of accounting aggression are defensible because industry innovators such as Enron, Tyco, and WorldCom are using them (Cunningham, 2003).

The desire to fit into an organization, to be a team player, to get along with co-employees, it has been argued, accounts for Ford employees selling the Pinto despite awareness of its gas tank dangers, A. H. Robins employees continuing to sell the Dalkon Shield despite knowledge of its medical consequences, and Morton Thiokol employees remaining silent about known O-ring dangers. (Costa, 1998) The impairment of individual decision making known as “groupthink” can also play a role here (Esser and Lindoerfer, 1989).

Thus, people are more likely to undertake unethical actions in the workplace and elsewhere if peers are engaging in similar behavior. And they certainly are less likely to blow the whistle on unethical activity when peers seem to accept it, just as a bystander to a crime is less likely to help the victim when others nearby are not helping. (Latane and Darley, 1968). Sherron Watkins at Enron (Lochhead, 2002) and Cynthia Cooper at WorldCom (Pulliam and Solomon, 2002) simply did what was clearly the ethical thing—blew the whistle on blatant frauds in their firms. These women are widely considered to be heroines because people intuitively realize how hard it truly is to act in accordance with ethical standards that are not aligned with the expectations of superiors and the practices of peers.

2.3. False Consensus Effect

One of my dinner companions related how his loyalty to his crooked boss blinded him to the unethical nature of the actions he was involved in until nearly the day he was arrested. Skeptics may view this as just a massive rationalization, but inclinations to follow authority and submit to peer pressure are reinforced by the false consensus effect, the tendency to believe that other people think the same way that we do, documented by Ross and his colleagues (1977). Thus, honest people will tend to believe that those they interact with are honest as well. If employees believe that they are honest and their supervisors are honest, then it will be particularly difficult for them to believe that their actions are unethical, especially if they work at a well-regarded firm like Enron with its famous RICE (Respect, Integrity, Communication, Excellence) code of ethics.

Underlings at Enron, WorldCom, Global Crossing and other companies recently embroiled in scandal often expressed astonishment as the more blatant of their bosses’ crooked acts came to light. These employees were often involved, peripherally or directly, in some of the wrongdoing themselves but may not have fully recognized the ethical implications of their acts, in part because of the false consensus effect, which is exacerbated by the fact that people are not good at detecting when they are being lied to but believe that they are (Vrij, 2000). Thus, lawyers and auditors, for example, too often get in bed with crooked clients without fully realizing it.

2.4. Overoptimism

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Humans are an optimistic lot--so much so that they often entertain irrational beliefs. For example, studies show that although they know that the national divorce rate is around 50%, newlyweds tend to rate their own chance of ever divorcing at 0% (Baker and Emery, 1993).

Some scientists have suggested that optimism is evolutionarily beneficial, but it can lead to systematic errors in decision making and, in some circumstances it can induce conduct that appears unethical. For example, Langevoort (1997) suggests that it is quite possible that in many cases of corporate disclosure fraud, the offending officers and directors were not consciously lying but instead were expressing honestly-held, but irrationally optimistic views of their firms' conditions and prospects. Irrational optimism can also play a role in plaintiffs' (and attorneys') decisions to file frivolous lawsuits, as Guthrie (2000) has shown.

2.5. Overconfidence

Overoptimism is often exacerbated by overconfidence. Psychological studies indicate that in many settings people are not just confident, but irrationally overconfident. A substantial majority of people believe erroneously that they are better than average drivers (Svensen, 1981), more likely to be able to afford to own a house than their peers (Weinstein, 1980), and accurate eyewitnesses (Shaw & McClure, 1996).

Overconfidence often extends to ethical realms. People tend to rate themselves as well above average in most traits, including honesty (Bazerman, 1998). Businesspeople tend to believe that they are more ethical than their competitors (Baumhart, 1968), and studies show that most auditors believe that they will act more ethically than their peers (Cohen, 1995). Overconfidence in one's own ethical compass can lead people to accept their own decisions without any serious moral reflection. For example, studies (Kennedy and Peecher, 1997; Kida, 1980) show that overconfidence in one's ability to do perform an audit can lead to taking short-cuts that might look unethical in retrospect. People's confidence in themselves translates into confidence in the ethical correctness of their acts and judgments. No wonder so many Enron-era scandal figures expressed surprise that anyone would question the morality, let alone legality, of their various activities that appear so nefarious to outsiders (Franks, 2002).

2.6. Self-Serving Bias

Perhaps the most important of the heuristics and biases discussed in this article is the self-serving bias, and Bazerman and colleagues (2002) observe that teaching ethics in the traditional way in business schools will not have an impact on this bias. So, it is imperative that students be educated about the self-serving bias, for even when people try their hardest to be fair and impartial, their judgments are inevitably shaded by it. Is it possible that Andy Fastow believed that he deserved the millions of dollars he took out of the Enron special purpose entities (SPEs) in exchange for his "creative" efforts in taking debt off Enron's books? Is it possible that Bernie Ebbers thought he was really worth the hundreds of millions of dollars that he took (much of it secretly) out of WorldCom? Is it possible that Arthur Andersen's auditors believed that Enron's

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financial statements truly represented Enron's financial condition? Research on the self-serving bias suggests that it is.

Focus for a moment on Arthur Andersen's David Duncan, the auditor in charge of the Enron account. Enron was one of Andersen's largest clients and Duncan's career essentially hung on the success of Enron. Andersen was making a healthy \$25 million a year auditing Enron and \$27 million annually by providing nonaudit services. Andersen also hoped to soon double that revenue to \$100 million a year. In other words, Andersen put itself as a firm, Duncan as a key audit partner, and Duncan's subordinates in a position where it was in all their best interests to conclude that Enron was in good financial shape and to keep this key client happy by approving Enron's various financial machinations as consistent with good accounting practices. In the shadow of such a strong self-interest, it would have been very difficult for even an auditor with the best of intentions to make objective judgments, as Pentice (2000a) has indicated.

In auditing Enron's books, the auditors would be prone to searching for information that supported the conclusion that they accurately represented Enron's financial condition and to ignoring evidence that contradicted that conclusion. This is called the confirmation bias. Psychologists are well aware of this tendency (Russo 1996), and studies show that auditors are as prone to it as anyone else (Bamber et al., 1997). Related is the notion of belief persistence--the fact that people tend to persist in beliefs they hold long after the basis for those beliefs is substantially discredited (Anderson et al., 1980).

Not only does the self-serving bias unconsciously affect the information that people seek out, causing them to search for confirming rather than disconfirming evidence, it also affects how they process that information. Thus, when psychologists give a relatively ambiguous document to two groups of people holding opposing views, members of each side tend to interpret the document as supporting their point of view (Lord, 1979). Koehler (1993) has shown that when scientists review articles, they will tend to conclude that those supporting their preexisting point of view are of higher quality than those opposing that view.

Therefore, documents that a disinterested person might view as not supporting Enron's desired position or not of high quality, might be viewed much differently by a self-interested Andersen auditor. Similarly, makers of asbestos, tobacco and other products who initially believe them to be beneficial products will have difficulty processing new information regarding their carcinogenic effects, creating an ethical minefield, as Klayman (1996) has observed.

The self-serving bias even affects how people remember information. Studies show that people are more likely to recall evidence that supports their point of view than evidence that opposes it (Babad, 1997). People involved in negotiations tend to remember information that supports their bargaining position more than information that undermines it (Thompson and Loewenstein, 1992). The audit process often requires recall of information and is thus inevitably affected by this aspect of the self-serving bias.

Inevitably, subjective judgments of fairness are also affected by the self-serving bias (Jolls et al. 1999). In part, this means, according to one aspect of causal attribution theory, that people have a tendency to attribute to themselves more than average credit for their company's or team's successes and less than average responsibility for its failures (Schlenker & Miller, 1977). Obviously, the more subjective the judgment and the less certain the facts, the more influential the self-serving bias is likely to be, but the bias is pervasive and unrelenting.

In one experiment, law students were given materials from a real case and asked to hypothetically represent one side. The students were asked what they thought a fair settlement was and how

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much they thought the judge in the case had probably awarded. The students' judgments as to fairness and their estimate as to outcome were dramatically affected by whether they had been assigned to represent the plaintiff or the defendant (Babcock et al., 1995, Loewenstein et al., 1993).

Consider Enron, which was largely involved in creating new businesses involving deal terms, derivative structures and unusual commodities without clearly established values. When Enron employees valued these terms, derivatives, and commodities, the decision determined the numbers Enron would put in its financial statements which, in turn, determined whether hundreds of millions of dollars of bonuses would be paid to the very employees who were making the valuations. No wonder those valuations frequently showed enormous profits when it later turned out that Enron lost money on the deals. No surprise, then, that in retrospect these judgments appear to have been unethical.

Thus, it is extremely important that attorneys and businesspeople realize that the judgments they make are inevitably affected by their own self-interest. Overbilling is a rampant problem in the legal profession (Gharakhanian and Krywyj, 2001), and those who get caught often have a ready rationalization along the lines of how valuable their work for the client has been and how hard and successfully they have worked for the client. Only the self-serving bias could foster such rationalizations. When those judgments are later reviewed in the press or by SEC enforcement staff or professional disciplinary bodies, they do not appear reasonable. Thus, students must be taught to have a heightened awareness of the self-serving bias and its impact.

Psychologists have noted that the self-serving bias, when combined with overconfidence and overoptimism, often creates an obstacle to negotiations. Negotiators are unable to form a realistic opinion regarding the strengths and weaknesses of their bargaining position. The unrealistic positions that people take not only impede the negotiation process and ultimate settlement (Babcock and Loewenstein, 1997), but may themselves appear to be ethically questionable. What might appear to a bank and its lawyers as a pragmatic bargaining position might be viewed by more objective parties as an unconscionable attempt to take advantage of vulnerable borrowers or customers.

2.7. Framing

If there is one overriding lesson of the heuristics and biases literature, it is that in decision making, context counts. A simple reframing of a question can produce a totally different answer from the same respondent. People's risk preferences change dramatically depending on whether an option is framed in terms of potential loss or potential gain (Kirby & Herrnstein, 1995). As a simple example of the impact of framing, people would rather buy potato chips labeled 75% fat free than identical chips labeled 25% fat (Sutherland, 1993). This framing effect has many implications for ethical decision making. One is that studies by Johnson, Jamal, and Berryman (1991, 1996) show that auditors sometimes can be fooled by clever frames used by crooked audit clients. If auditors are insufficiently wary, they may not detect fraudulent actions in a setting that will later make their actions look unethical. But looking unethical is not as bad as being unethical, and framing effects have implications here as well.

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Decisions made by business managers, accountants, lawyers and others often occur in a context where subjective factors predominate. The self-serving bias may lead an actor to frame decisions in such a way as to lead to untoward conclusions. In Enron's declining days, the company actually attempted to save some money by encouraging employees to minimize travel expenses. An Enron employee later wrote that he intentionally flouted the new policy. This might seem like a clear violation of company policy and an ethical lapse, but in the employee's mind, he deserved to stay in the most expensive hotels and to eat at the best restaurants because of how very hard he was working. (Cruver, 2002). Had he framed the issue in terms of the broader picture rather than his narrow self-serving interests, he might have acted differently (Kramer and Messick, 1996). But then, maybe not, because he also noted that other employees were also ignoring the new policy (social proof).

Defense attorneys and prosecutors often "keep score" of their "wins and losses." When prosecutors, for example, frame a case as an opportunity to "win or lose" rather than to do justice, decision making will be impaired. An incentive arises to drop cases that are not sure wins or to cut constitutional and ethical corners in order to win at all costs. (Bresler, 1996)

Corporate social responsibility issues are affected here as well. If a CEO frames his or her responsibility only in terms of maximizing shareholder value, Blair points out that "we should not be surprised to find that those officers and directors are more likely to neglect such niceties as honesty, personal integrity, and commitment to the mutual benefit of all the participants in the corporate enterprise." (Blair, 2002).

2.8. Process

In decision making, context matters, as the previous section indicates. Process also matters. People sometimes make much different decisions depending upon whether they are presented with a particular big decision, or a series of incremental decisions leading to the same point, as Tversky (1969) demonstrated. Lifton (1986) noted that German doctors who participated in euthanasia of "undesirables" were generally introduced to the process slowly. They were not initially asked to perform the deed themselves. Rather, they were first brought to the place where the work was done. Then they were asked to sign a relevant document. Then they were to supervise a "mercy killing." Only later were they asked to do themselves what they likely would have refused to do had they been asked in the beginning.

And so it is that rather than making a significant, conscious decision to violate ethical precepts, people more often slide down a slippery slope in tandem with their peers in an organization (Loewenstein, 1996). People who would not have signed off on bogus special purpose entities (SPEs) or engaged in roundtrip energy trades on the day they began working for Enron, slowly adapted to a corporate culture that encouraged and rewarded aggressive actions that increasingly crossed the line into the unethical and the illegal.

2.9. Cognitive Dissonance

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Another psychological tendency that interferes with rational processing of information is cognitive dissonance, a process discovered by Festinger (1957). Related to the confirmation bias, the notion here is that to avoid uncomfortable psychological inconsistency, once people have made decisions or taken positions, they will cognitively screen information and tend to reject that which undermines their decisions or contradicts their positions. Langevoort (1993) has explained how cognitive dissonance can delay lawyers from realizing that their clients are crooks. The same point has been made by Prentice (2000b) regarding auditors. Once a person has taken a position (“My client is honest.” “My employer is innovative.” “My client’s financial statements are accurate.”), the process of cognitive dissonance makes it difficult for the person to accurately process new, contradictory information. In retrospect, what appears to have been dishonesty and foolhardy loyalty to an employer or client, may have been cognitive dissonance at work.

2.10. Sunk Costs

Another factor that may keep an actor on a self-destructive course that in retrospect will appear unethical is the notion of sunk costs and the related phenomenon, escalation of commitment. While economists model hypothetical rational economic actors who do not consider sunk costs in deciding future courses of action, most people in real life do so. Thus, Arkes and Blumer (1985) have shown that people will attend a play that they have decided they don’t really want to see just because they have already bought the tickets. Worse yet, sunk costs can lead to an escalating commitment where people throw good money after bad in a deteriorating situation (Ross and Staw, 1986). The Pentagon’s behavior in the Vietnam War has been so characterized.

Because of these phenomena, managers of an audit firm that has low-balled an audit bid in order to get a foot in the door to sell a client nonaudit services will have great difficulty discharging that client when evidence begins to come to light that it is engaged in shady operations. Partners in a law firm who have hired several young associates in order to handle a large stream of work coming from a dot.com client will have similar difficulties. Managers of companies that have poured huge amounts of resources into a particular product will have great difficulty scrapping that product when evidence of safety problems surface.

Part of this phenomenon is loss aversion, which I will address shortly. The key point is that as people become used to having their job, their salary, and their perquisites, their decision making process is affected more substantially than they realize. The Supreme Court surmised in *Edenfield v. Fane*, 507 U.S. 761 (1993) that a client wishing to do something scurrilous will have more luck inducing a long-time accountant to go along with the scheme than an accountant it has just hired, and the psychological evidence is consistent with this intuition.

2.11. The Tangible and the Abstract

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People's decision making is naturally impacted more by vivid, tangible, contemporaneous factors than by factors that are removed in time and space (Darley, 1996). They are more moved by relatively minor injuries to their family, friends, neighbors and even pets than to the starvation of millions abroad. This can cause problems that have ethical dimensions. As Loewenstein and his colleagues (1996) have noted, auditors who have come to identify with their client and to be friendly with their clients' employees will have great difficulty making tough decisions that might injure that client's and those employees' interests when the countervailing injury is temporally distant and will be visited, if at all, upon a mass of faceless investors. Attorneys have the same limitations. Designers and marketers of products with safety concerns do as well, finding it tremendously difficult to decide to pull the plug on a product (even a Ford Pinto or a Dalkon Shield), lay off employees working on the product, and damage the company's profits in the short-term when the potential injuries are hypothetical at this point, temporally-distant, and, again, will be visited upon merely statistical victims.

2.12. Time-Delay Traps

Another aspect of the immediacy of decision making factors is the temporal. Unfortunately, when an action has both short-term and long-term consequences, the former are much easier for people to consider (Loewenstein, 1996). People subject to this time-delay trap in decision making often prefer immediate to delayed gratification, which, Ulen (1998) argues, may justify Social Security's form of forced saving.

Prentice (2000a) has noted that failure to appreciate the long-term adverse consequences of allowing an audit client to push the envelope in terms of legal liability and reputational damage may be underappreciated by auditors worried about the loss of revenue and loss of friendships that would immediately occur if harder choices were made. One must suspect that the short-term gratification that Bernard Ebbers at WorldCom and Andrew Fastow at Enron enjoyed in the form of their fabulous if illicit remuneration outweighed in their minds the long-term risks of being caught (which may have been underappreciated due to overconfidence and overoptimism biases). Kraakman (1984) has noted that almost every day the financial newspapers report about another top corporate official who has, to his or her ultimate regret, succumbed to a time-delay trap. Many respected lawyers at high profile firms have been busted for billing fraud in recent years, one suspects for the same reason. (Lerman, 1999)

Many officers at Enron found it easy to value deals they entered into for future streams of revenue in an optimistic fashion. In the short term, they reaped millions of dollars of performance bonuses. In the long run, many of those deals lost huge amounts of money, but in the long run we're all dead. At least Arthur Andersen and Enron are.

2.13. Loss Aversion

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People detest losses more than they enjoy gains, about twice as much (Coughlin and Connolly, 2001). This loss aversion is probably related to the endowment effect, the notion that we easily attach ourselves to things and then value them much more than we valued them before we identified with them. A simple coffee mug becomes much more valuable to us once we view it as part of our endowment, as Knetsch and Sinden (1984) have shown. Wide-ranging studies surveyed by Horowitz and McConnell (2000) show that people typically demand seven times as much to part with something as they would have paid to obtain it in the first place.

One implication of the endowment effect and loss aversion is that people will make decisions in order to protect their endowment that they would never have made in the first place to accumulate that endowment. Consider a famous accounting case, *U.S. v. Simon*, 425 F.2d 796 (2d Cir. 1969). Auditors discovered that their client had been committing a fraud that they had not detected. One suspects that these auditors would never have consciously cast their lot with a fraudster in the first place. But once they learned of the fraud, of their own negligence, and of their potential liability, they did knowingly decide to help cover up the fraud. Darley (1996) has argued that it is at the cover up stage that many actors who have almost inadvertently acted unethically first cross over to conscious wrongdoing. Thus, employees of manufacturers often find themselves covering up errors in design or testing (Vandivier, 1987). Lawyers may begin by defending the tobacco industry in product liability suits and end by fraudulently concealing research showing links between tobacco and cancer (Zegart, 2000).

3. Limitations

Certainly instruction about the heuristics and biases that affect ethical decision making will be of little or no benefit to that subset of students who wish to ruthlessly advance their own self-interest regardless of ethical constraints, but this is a small percentage of overall students.

Also, evidence shows that some of these tendencies are very difficult to debias, even with experience and training. For example, a study by Taylor and Shepperd (1998) indicates that overconfidence and overoptimism are very robust and therefore difficult to debias. The effect of disconfirming evidence is often an increase in confidence rather than the more rational decrease (Geller and Pitz, 1968). A Loewenstein et al. (1996) study of the self-serving bias discussed earlier asked law students assigned to hypothetically represent one side in a case to guess how much the judge had awarded in the case. In one iteration, the experimenters explained the self-serving bias to the students, and asked them to predict what their opponents would estimate the judge had awarded. Informing the students affected their guess as to what their opponents would estimate, but had no impact on their own judgments. In other words, the students realized how the self-serving bias prejudiced others' judgments, but somehow thought that they would be immune to it.

So, no panacea this. Nonetheless, not all attempts to debias have been failures. Emby and Finley (1997) had some luck debiasing framing effects. Snyder and colleagues (1982) found that warning subjects of their vulnerability to the confirmation bias mitigated its influence. McKenna and Myers (1997) were able to reduce overconfidence effects. Kennedy (1995) had some luck minimizing aspects of the hindsight bias.

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4. Conclusion

Stephen Pinker (2002), writing about the hard-wiring of human brains, noted that “[o]ur minds are adapted to a world that no longer exists, prone to misunderstandings correctable only by arduous education, and condemned to perplexity about the deepest questions we can entertain.” Many of those deep questions, of course, involve determining what is ethical action in given situations. But it is also important to attempt to determine how to minimize susceptibility to those “misunderstandings” Pinker references, in order to improve ethical decision making. As Darley (1996) notes, “most harmful actions are not committed by palpably evil actors carrying out solitary actions,... [but] by individuals acting within an organizational context.” It is therefore important that well-meaning individuals be aware of their susceptibility to authority, peer pressure, and other organizational influences, as well as to the various heuristics and biases discussed in this essay.

Organized religion has been around for centuries without moving mankind dangerously close to perfection, and education in the heuristics and biases literature will likely not accomplish that task either. Nonetheless, by educating business students, law students, and others regarding weaknesses in decision making that all people share, the odds may be increased that they will guard against them as they attempt to lead lives as ethical professionals. These heuristics and biases have been frequently studied in the management literature for the inefficient consequences they can create, but the unethical decisions they produce should not be underestimated. Educating students about these heuristics and biases may help minimize their effects. At the very least, it will eliminate an excuse for not acting ethically.

The impact of these heuristics and biases can be brought home vividly by asking students to take part in versions of some of the classic experiments. Scott Plous’s book (1993) has a very serviceable questionnaire that quickly illustrates several of the more important points.

References:

- Anderson, C., M. Lepper, and L. Ross (1980), “Perseverance of Social Theories: The Role of Explanation in the Persistence of Discredited Information,” *Journal of Personality and Social Psychology* 39: 1037-1049.
- Arkes, H. and C. Blumer (1985), “The Psychology of Sunk Cost,” *Organizational Behavior and Human Decision Processes* 35: 124-140.
- Asch, S.E. (1952), *Social Psychology*, New York: Prentice Hall.
- Asch, S.E. (1956), “Studies of Independence and Conformity: A Minority of One Against a Unanimous Majority,” *Psychological Monographs* 70: 9 (Whole No. 416).
- Babad, E. (1997), “Wishful Thinking Among Voters: Motivational and Cognitive Influences,” *International Journal of Public Opinion Research* 9: 105-112.
- Babcock, L., G. Loewenstein, S. Issacharoff, and C. Camerer (1995), “Biased Judgments of Fairness in Bargaining,” *American Economic Review* 85: 1337-1343.
- Babcock, L. and G. Loewenstein (1997), “Explaining Bargaining Impasse: The Role of Self-Serving Biases,” *Journal of Economic Perspectives* 11: 109-126.
- Baker, L. and R. Emery (1993), “When Every Relationship Is Above Average: Perceptions and Expectations of Divorce at the Time of Marriage,” *Law and Human Behavior* 17: 439-450.
- Bamber, E.M. (1997), “An Examination of the Descriptive Validity of the Belief-Adjustment Model and Alternative Attitudes to Evidence in Auditing,” *Accounting, Organizations, and Society* 22: 249-268.

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- Baumhart, R. (1968), *An Honest Profit: What Businessmen Say About Ethics in Business*, (New York: Holt Rinehart Winston).
- Bazerman, M. (1998), *Judgment in Managerial Decision Making*, New York: John Wiley & Sons).
- Bazerman, M., G. Loewenstein and D. Moore (2002), "Why Good Accountants Do Bad Audits," *Harvard Business Review*, 80, Nov., 97-102.
- Blair, M. (2002), "Shareholder Value, Corporate Governance and Corporate Performance: A Post-Enron Reassessment of the Conventional Wisdom," available at <http://papers.ssrn.com/paper.taf?abstract_id=334240>.
- Bresler, K. (1996), "I Never Lost a Trial': When Prosecutors Keep Score of Criminal Convictions," *Georgetown Journal of Legal Ethics* 9: 537-546.
- Cialdini, R. (1993), *Influence: Science and Practice*, New York: William Morrow & Co.
- Cohen, J., L. Pant, and D. Sharp (1995), "An Exploratory Examination of International Differences in Auditors' Ethical Perceptions," *Behavioral Research in Accounting* 7: 37-64.
- Costa, J. (1998), *The Ethical Imperative: Why Moral Leadership Is Good Business*, Reading, MA: Addison-Wesley.
- Coughlan, R. and T. Conolly (2001), "Predicting Affective Responses to Unexpected Outcomes," *Organizational Behavior and Human Decision Processes* 85: 211-225.
- Cruver, B. (2002), *Anatomy of Greed: The Unshredded Truth from an Enron Insider*, New York: Carroll & Graf.
- Cunningham, L. (2003), "The Sarbanes-Oxley Yawn: Heavy Rhetoric, Light Reform (And It Might Just Work)," *Connecticut Law Review* 36, 915 - 988.
- Darley, J. (1996), "How Organizations Socialize Individuals into Evildoing," in D. Messick and A. Tenbrunsel (eds.), *Codes of Conduct: Behavioral Research into Business Ethics*, New York: Sage, New York, pp. 13-43.
- DeGeorge, R. (1991), "Green and Everybody's Doing It," *Business Ethics Quarterly* 1: 95-100.
- DeZoort, F.T and A. Lord (1994), "An Investigation of Obedience Pressure Effects on Auditors' Judgments," *Behavioral Research in Accounting* 6 (Supp.): 1-30.
- Emby, C. and D. Finley (1997), "Debiasing Framing Effects in Auditors' Internal Control Judgments and Testing Decisions," *Contemporary Accounting Research*, 14(2): 55-77.
- Esser, J. and J. Lindoerfer (1989), "Groupthink and the Space Shuttle Challenger Accident: Toward a Quantitative Case Analysis," *Journal of Behavioral Decision Making* 2: 167-177.
- Etzioni, A. (1988), *The Moral Dimension: Toward a New Economics*, New York: Free Press.
- Festinger, L. (1957), *A Theory of Cognitive Dissonance*, Stanford, CA: Stanford University Press.
- Franks, J. (2002), "How the Mighty Have Fallen at Enron," *Houston Chronicle*, Aug. 29: D6.
- Geller, E.S. and G. Pitz (1968), "Confidence and Decision Speed in the Revision of Opinion," *Organizational Behavior and Human Performance* 3: 190-201.
- Gharakhanian, A. and Y. Krywyj (2001), "The Gunderson Effect and Billable Mania: Trends in Overbilling and the Effect of New Wages," *Georgetown Journal of Legal Ethics* 14: 1001-1017.
- Gilovich, T., D. Griffin, and D. Kahneman (2002), *Heuristics and Biases: The Psychology of Intuitive Judgment*, Cambridge, UK: Cambridge University Press.
- Green, R. (1991), "When Is 'Everyone's Doing It' a Moral Justification?," *Business Ethics Quarterly* 1: 75-93.
- Guthrie, C. (2000), "Framing Frivolous Litigation: A Psychological Theory," *University of Chicago Law Review* 67: 163 - 216.
- Hastie, R. and R. Dawes (2001), *Rational Choice in an Uncertain World: The Psychology of Judgment and Decision Making*, Thousand Oaks, CA: Sage.
- Horowitz, J. and K. McConnell: 2000, 'A Review of WTA/WTP Studies, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=257336.
- Jamal, K., P. Johnson, and R.G. Berryman (1996), "Detecting Framing Effects in Financial Statements," *Contemporary Accounting Research* 12: 85-105.
- Jenkins, H. (2002), "How Could They Have Done it?," *Wall Street Journal*, Aug. 28: A15.
- Johnson, P., K. Jamal, and R.G. Berryman (1991), "Effects of Framing on Auditor Decisions," *Organizational Behavior and Human Decision Processes* 50: 75-105.
- Jolls, C., C. Sunstein and R. Thaler (1998), "A Behavioral Approach to Law and Economics," *Stanford Law Review* 50: 1471-1550.
- Kahneman, D., P. Slovic, and A. Tversky (1982), *Judgment Under Uncertainty: Heuristics and Biases*, Cambridge, UK: Cambridge University Press.
- Kahneman, D. and A. Tversky (2000), *Choices, Values, and Frames*, Cambridge, UK: Cambridge University Press.
- Kennedy, J. (1995), "Debiasing the Curse of Knowledge in Audit Judgment," *Accounting Review*, 70: 249-273.

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- Kennedy, J. and M. Peecher (1997), "Judging Auditors' Technical Knowledge," *Journal of Accounting Research* 35: 279-293.
- Kida, T. (1980), "An Investigation into Auditors' Continuity and Related Qualification Judgments," *Journal of Accounting Research* 18: 506-523.
- Kirby, K. and R. Herrnstein (1995), "Preference Reversals Due to Myopic Discounting of Delayed Reward," *Psychological Science* 6: 83-89.
- Klayman, J. (1996), "Ethics as Hypothesis Testing, and Vice Versa," in D. Messick and A. Tenbrunsel (eds.), *Codes of Conduct: Behavioral Research into Business Ethics*, New York: Sage, pp. 243-255.
- Knetsch, J. and J. Sinden (1984), "Willingness to Pay and Compensation Demanded: Evidence of an Unexpected Disparity in Measures of Value," *Quarterly Journal of Economics* 99: 512-521.
- Koehler, J. (1993), "The Influence of Prior Beliefs on Scientific Judgments of Evidence Quality," *Organizational Behavior and Human Decision Processes* 56: 28-55.
- Kraakman, R. (1984), "Corporate Liability Strategies and the Costs of Legal Controls," *Yale Law Journal* 93: 857-898.
- Kramer, R. and D. Messick (1996), "Ethical Cognition and the Framing of Organizational Dilemmas: Decision Makers as Intuitive Lawyers," in D. Messick and A. Tenbrunsel (eds.), *Codes of Conduct: Behavioral Research into Business Ethics*, New York: Sage, pp. 59-85.
- Langevoort, D. (1993), "Where Were the Lawyers? A Behavioral Inquiry Into Lawyers' Responsibility for Clients' Fraud," *Vanderbilt Law Review* 46: 75-119.
- Langevoort, D. (1997), "Organized Illusions: A Behavioral Theory of Why Corporations Mislead Stock Market Investors (And Cause Other Social Harms)," *University of Pennsylvania Law Review* 146: 101-172.
- Latane, B. and J. Darley (1968), *The Unresponsive Bystander: Why Doesn't He Help?*, New York: Prentice-Hall.
- Lehmann, J. (2002), "Two Former WorldCom Execs Admit They Cooked the Books," *N.Y. Post Oct. 11*: 36.
- Lerman, L. (1999), "Blue-Chip Bilking: Regulation of Billing and Expense Fraud by Lawyers," *Georgetown Journal of Legal Ethics* 12: 205-366.
- Lifton, R. (1986), *The Nazi Doctors: Medical Killing and the Psychology of Genocide*, New York: Basic Books.
- Lochhead, C. (2002), "There's a Moral Here," *San Francisco Chronicle Feb. 18*: B5.
- Loewenstein, G. (1996), "Behavioral Decision Theory and Business Ethics: Skewed Trade-Offs Between Self and Others," in D. Messick and A. Tenbrunsel (eds.) *Codes of Conduct: Behavioral Research into Business Ethics*, New York: Sage, pp. 214-227.
- Loewenstein, G., S. Issacharoff, C. Camerer, and L. Babcock (1993), "Self-Serving Assessments of Fairness and Pretrial Bargains," *Journal of Legal Studies* 22: 135-159.
- Lord, C., M. Lepper, and L. Ross (1979), "Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence," *Personality & Social Psychology* 37: 2098-2110.
- McKenna, F. and L. Myers (1997), "Illusory Self-Assessments—Can They Be Reduced?," *British Journal of Psychology* 88, 39-49.
- Messick, D. and M. Bazerman (1996), "Ethical Leadership and the Psychology of Decision Making," *Sloan Management Review* 37 (Winter): 9-22.
- Messick, D. and A. Tenbrunsel (1996), *Codes of Conduct: Behavioral Research into Business Ethics*, New York: Russell Sage Foundation.
- Milgram, S. (1974), "Behavioral Study of Obedience," *Journal of Abnormal and Social Psychology* 64: 371-378.
- Milgram, S. (1974), *Obedience to Authority*, New York: Harper & Row.
- Peecher, M. (1994), "The Influence of Auditors' Justification Processes on Their Decisions: A Cognitive Model and Experimental Evidence," *Journal of Accounting Research* 34: 125-140.
- Pinker, S. (2002), *The Blank Slate: The Modern Denial of Human Nature*, New York: Viking.
- Plous, S. (1993), *The Psychology of Judgment and Decision Making*, New York: McGraw-Hill.
- Posner, R. (1977) *Economic Analysis of Law*, Boston: Little Brown & Co.
- Prentice, R. (2000a), "The SEC and MDP: Implications of the Self-Serving Bias for Independent Auditing," *Ohio State Law Journal* 61: 1597-1670.
- Prentice, R. (2000b), "The Case of the Irrational Auditor: A Behavioral Insight into Securities Fraud Litigation," *Northwestern University Law Review* 95: 133-220.
- Pulliam, S. and D. Solomon (2002), "How Three Unlikely Sleuths Discovered Fraud at WorldCom," *Wall Street Journal, October 30*: A1.
- Ross, L., D. Greene, and P. House (1977), "The False Consensus Effect: An Egocentric Bias in Social Perception and Attribution Processes," *Journal of Experimental and Social Psychology* 13: 279-301.

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- Ross, J. and B. Staw (1986) "Expo '86: An Escalation Prototype," *Administrative Science Quarterly* 31: 274-297.
- Russo, J., V.H. Medvec, and M. Melot (1996) "The Distortion of Information During Decisions," *Organizational Behavior and Human Decision Processes* 66: 102-110.
- Sabini, J., M. Siepmann, and J. Stein (2001), "The Really Fundamental Attribution Error in Social Psychological Research," *Psychological Inquiry* 12: 1-15.
- Schlenker, B. and R. Miller (1977), "Egocentrism in Groups: Self-Serving Biases or Logical Information Processing?," *Journal of Personality and Social Psychology* 35: 755-764.
- Shaw, J. and K. McClure (1996), "Repeated Postevent Questioning Can Lead to Elevated Levels of Confidence," *Law and Human Behavior* 20, 629-653.
- Snyder, M., B. Campbell, and E. Preston (1982), "Testing Hypotheses About Human Nature: Assessing the Accuracy of Social Stereotypes," *Social Cognition*, 1: 256-272.
- Sutherland, M. (1993), *Advertising and the Mind of the Consumer*, St. Leonards, NSW: Allen & Unwin.
- Svensen, O. (1981), "Are We All Less Risky and More Skillful than Our Fellow Drivers?," *Acta Psychologica* 47: 143-148.
- Taylor, K. and J. Shepperd (1998), "Bracing for the Worst: Severity, Testing, and Feedback Timing as Moderators of the Optimism Bias," *Personality and Social Psychology Bulletin* 24: 915-926.
- Thompson, L. and G. Loewenstein (1992), "Egocentric Interpretations of Fairness and Interpersonal Conflict," *Organizational Behavior and Human Decision Processes* 51: 176-197.
- Tversky, A. (1969), "Intransitivity of Preferences," *Psychological Review* 76: 31-48.
- Ulen, T. (1998), "The Growing Pains of Behavioral Law and Economics," *Vanderbilt Law Review* 51: 1747-1763.
- Vandivier, K. (1987), "Why Should my Conscience Bother Me?," in S. Hills (ed.) *Corporate Violence*, Totowa, NJ: Roman & Littlefield, pp. 145 – 162.
- Vrij, A. (2000), *Detecting Lies and Deceit: The Psychology of Lying and the Implications for Professional Practice*, Chichester, UK: John Wiley.
- Weinstein, N. (1980), "Unrealistic Optimism About Future Life Events," *Journal of Personality and Social Psychology* 39: 806-820.
- Zegart, D. (2000), *Civil Warriors: The Legal Siege on the Tobacco Industry*, New York: Delacorte.

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