CHAPTER 3: DEONTOLOGICAL DISSONANCE & THE CONSEQUENTIALIST CRUTCH[*]

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Partial definition of the adjective form of the word "*right*" (Dictionary.com):

1. in accordance with what is good, proper, or just.

2. in conformity with fact, reason, truth, or some standard or principle; correct.

People have moral beliefs. They believe that some things are morally right and some are morally wrong, just as they believe that other propositions about the state of the world are factually right or factually wrong. In the absence of pressure to justify their positions, people seem to experience prescriptive beliefs such as "capital punishment is wrong" in much the same way they experience descriptive beliefs like "cutting taxes stimulates the economy." Interesting differences emerge, however, when people are required to justify their moral beliefs.

In this chapter, we examine the relation between moral belief (what a person believes is morally good, proper and just) and factual belief (what a person believes is empirically true based on fact, observation and reason). We make the case that people are both moral intuitionists and moral realists: that our beliefs about right and wrong are more often a product of affective reactions than of deliberative cognitive processing, but that we nonetheless feel a need to justify the "truth" of our moral beliefs with reference to some form of evidence. This becomes tricky for people when faced with classic forms of moral dilemmas, in which the superficial facts of the matter suggest that no course of action is without morally undesirable consequences. It is in these cases, we argue, that factual beliefs come into moral play, and are often constructed in ways that minimize the experience of moral conflict. Hence, people rarely take true "moral stands," asserting that some course of action is morally right, even when facts suggest that other actions are more practically advantageous. Rather, people tend to bring their factual beliefs into line with their moral intuitions, such that the right course of action morally becomes the right course of action practically as well. Our analysis complicates simple distinctions between deontological

(rule or principle-based) and consequentialist (outcome or consequence-based) morality and identifies a key contributor to the intractability of many moral and political conflicts. It is difficult to resolve differences of opinion when each side has its own facts.

Moral Intuitionism

Over the last several decades, the dominant perspective in moral psychology has evolved from a rationalist view that saw cognitive sophistication and deliberative reasoning as the crucial phenomenon in moral judgment (e.g., Kohlberg, 1969) to a recognition that implicit affective processes play a substantial role in establishing beliefs about right and wrong (e.g., Cushman & Greene, Graham & Haidt; Hirschberger & Pyszczynski; Monin & Merritt, this volume). This affective revolution was sparked by two groundbreaking papers published in 2001: Greene and colleague's empirical demonstration of the involvement of emotional centers of the brain when a person considers classic moral dilemmas (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001), and Haidt's articulation of a social intuitionist model of moral judgment (Haidt, 2001). In sharp contrast to Kohlberg's rationalist position, this new look in moral psychology posited that right and wrong are judgments more often felt than thought. Haidt (2001) in particular argued that moral judgments are less like reasoned inferences than aesthetic preferences; they are evaluations that seem to appear in consciousness unattached to any logical derivation or evidential basis (Hume 1740/1985). Importantly, neither Haidt nor Greene contended that thoughtful deliberation plays no role in moral judgment, but rather that moral reasoning is a special case, usually prompted either by conflict between competing moral intuitions or in the service of explaining one's moral beliefs to others.

Moral Realism

People may arrive at moral judgments intuitively, but most do not perceive them as merely idiosyncratic hunches or matters of personal taste. People navigate the world as naïve realists, believing that their perceptions reflect the external world as it is, with little appreciation for how top-down construal processes can shape subjective impressions (e.g., Ross & Ward, 1996). Naïve realism plays an important role in moral judgment as well.

When presented with matters of aesthetics or social convention, people seldom say that there is a universally "correct" answer to these questions or that someone who gives a different answer from theirs is "wrong." But in matters of scientific fact they assume that there is a correct

answer, and they often respond similarly to important moral questions (Goodwin & Darley, 2008). Although people are sensitive to differences between factual and moral judgments, most people most of the time approach the world as moral realists, experiencing the morality of issues such as racial prejudice, stem cell research, and "enhanced" interrogation techniques as "objective" characteristics of phenomena (Goodwin & Darley, 2008; Skitka, Bauman, & Sargis, 2005; see also Skitka, this volume) that apply universally across people and cultures (Nichol & Folds-Bennett, 2003). Even people reading this chapter, for example, despite their sophisticated understanding of the complexities of moral judgment, probably spend the better part of their day believing that embryonic stem cell research *really is* morally justifiable, that waterboarding *really is* morally wrong, and that people who disagree with them on these scores are "mistaken" about the actual moral qualities of those acts. As one would expect, this is particularly true of our most important moral beliefs (Skitka et al., 2005) and, we suspect, is even more true implicitly, outside the glare of psychologists' prodding questions, than when people are explicitly asked by researchers to consider the nature of their beliefs.

In short, people treat morality as more than just a matter of aesthetics or opinion. Although we appreciate that morality is something more subjective than scientifically verifiable fact, our actions nevertheless imply that we endorse some notion of moral "truth," some sense that beliefs about right and wrong can themselves be right or wrong.

Moral Justification

If our moral reactions are to be treated as something more than mere opinion, however, both philosophers and ordinary people expect them to be justified by some form of evidence. The intuitive nature of moral responses makes us unlikely to generate moral justifications spontaneously (just as we are unlikely to question the validity of visual or auditory perceptions; Gilbert, 1991), but if moral intuitions are challenged by others, or a situation evokes conflicting moral intuitions, it is not enough just to assert that, for example, capital punishment is wrong, and then be done with it. As with matters of fact, we expect other people to agree with our moral positions, and if we are to convince them to do so, we have to provide them with some justification for why they should share our beliefs.

It is in this matter of justification, however, that moral and factual judgments differ. Simply put, descriptive judgments are justified by facts and logic. If we want to argue that

cutting taxes stimulates the economy, it is incumbent upon us to provide factual evidence that logically supports the accuracy of this description. But moral judgments have a more complicated relation to descriptive facts, and in particular to cost-benefit logic, than do nonmoral judgments.

First, it has often been argued that the essence of moral thinking is deontic intuitions that some acts are simply right or wrong in and of themselves, no matter their costs or benefits to self or others (Baron & Spranca, 1997; Kant 1795/1998). Many people will state, for example, that it is morally wrong to use human embryos in medical research, even if that research might produce tremendous benefits in lives saved from serious illness. This notion of the "sacred," that certain acts are protected from normal cost-benefit valuation (that the "ends do not justify the means"), is often thought to be what separates truly moral judgments from other kinds of thinking (see Graham & Haidt, this volume).

Most importantly, because deontological moral judgments are inherently rule-based, factual justifications are irrelevant (Tanner, Medin, & Iliev, 2008). What facts could be harnessed to prove that embryonic stem cell research is immoral independent of its consequences? In such cases, people justify their moral intuitions by invoking a principle. Grounding one's specific deontic intuitions as an instantiation of a general moral principle allows moral justification to take a form (e.g., "I believe stem cell research is wrong *because* it is morally impermissible to deliberately sacrifice innocent human life even for a greater good") very much like fact-based inference (e.g., "I believe cutting taxes improves the economy *because* data shows that tax cuts stimulate business growth and investment"). It is important to note, however, that the principle, like the specific judgment, is a prescriptive value assessment that cannot be supported in any simple way by descriptive facts.

But not all moral justifications are based on pure principle. In many cases for many people, moral beliefs are justified via much the same logical analysis as factual beliefs. The broad set of philosophical positions referred to as consequentialism (aka utilitarianism) is founded on the notion that the morality of an act is based on some sort of calculation of the benefits it produces (Benthem, 1789/1961). Thus, many people will state that capital punishment is morally justified because it deters potential future murderers from committing this crime; that the taking of one life is justified by saving many more. Consequentialism explicitly subsumes

moral reasoning within cost-benefit analyses, arguing that ends can justify means depending on the moral balance sheet.

In the case of consequentialist moral judgments, factual beliefs are quite relevant to moral justification. If one asserts that capital punishment is permissible because it deters future murders, then one is also asserting (descriptively) that these acts actually do produce these outcomes. Similarly, given that one's moral evaluation is based on the cost-benefit ratio of the act to the outcome, facts about the costs of the action are also relevant. If one believes that waterboarding is not particularly painful and causes no permanent psychological damage, then the low cost means that less benefit in terms of acquired intelligence needs to be assumed for that act to pass muster in a moral cost-benefit calculation.

In summary, there are two primary ways to justify moral beliefs. One is to stand on principle. This kind of deontological stand is theoretically independent of factual belief or rational analysis. The stand is justified by prescriptive beliefs about the inherent (im)morality of the act. The second way to justify moral beliefs is to focus on outcomes. This latter form of judgment, consequentialism, is a kind of rational moral calculus in which descriptive beliefs about the likelihood that an act will bring about particular outcomes play a crucial role. The only prescriptive principle involved in consequentialism is that the morality of acts should be based on their consequences. Once that position is adopted, moral evaluation is just a matter of fact.

Moral Conflict

Moral justification becomes most interesting when principles come into conflict with cost-benefit analyses and factual beliefs. Psychologists and philosophers are fascinated by moral dilemmas, situations in which no moral choice is without undesirable moral consequences. Of particular interest have been dilemmas that pit deontological against consequentialist logic, as in Kohlberg's famous "Heinz dilemma," in which a husband must choose whether or not to steal an overpriced drug to save his wife's life (Kohlberg, 1969), or the "Trolley Problem," in which the morality of redirecting a runaway trolley train to kill one individual rather than five must be evaluated (e.g., Foot, 1967; also Cushman & Greene, this volume). These dilemmas place people in a difficult moral quandary, requiring them to weigh whether one ostensibly immoral act (committing a robbery or taking a single life) can be justified if it produces what most would

consider a greater moral benefit (curing one's wife of a deadly disease or saving the lives of five people in exchange for the life of one).

The conflicting intuitions these puzzles engage make them fun to ponder at cocktail parties or dorm room bull sessions, but understanding how people deal with moral dilemmas is more than just an academic parlor game or an exercise in frivolous "trolleyology." The value of studying fanciful laboratory puzzles comes from the similarity they share with many real world moral controversies. Capital punishment, embryonic stem cell research, the use of forceful interrogation techniques, and even whether to promote condom use to teenagers, all pose the same essential question of whether (or under what circumstances) undesirable means can be justified to achieve desirable ends. Debates about the proper policies to pursue in these situations have consumed countless hours of debate in halls of government, on 24-hour cable news stations, and in internet blogs and chat rooms. The intense disagreements these issues engender form the centerpiece of the venomous "culture war" in contemporary American politics (e.g., Hunter, 1991).

And yet, an interesting feature of the moral conflict caused by these dilemmas is that the conflict is largely interpersonal rather than intrapersonal. That is, groups and individuals fight endlessly about the morally correct response to the dilemmas posed by the death penalty, enhanced interrogation, and so on. But individuals seldom experience their chosen solution as particularly dilemmatic. Rather, people who believe that capital punishment is inherently immoral also typically contend that it is ineffective at deterring future crime, and it is difficult to find anyone who believes that techniques like waterboarding are morally reprehensible who does not also doubt their effectiveness in producing actionable intelligence.

How do people enjoy the best of both worlds, touting their moral imperatives while at the same time believing that the cost-benefit analysis is on their side as well?

Moral Confabulation

Moral dilemmas resemble a classic free-choice cognitive dissonance paradigm in that any choice an individual makes produces, at least temporarily, some level of psychological discomfort (see Monin & Merritt, this volume). In the classic trolley dilemma, for example, if a person makes the consequentialist choice to sacrifice a single life to save five, that choice necessarily results in both consonant cognitions (that five lives have been saved by one's

decision) and dissonant cognitions (that one's decision also resulted in the death of an innocent person). The dissonance resulting from the choice can be made more or less intense depending on other relevant cognitions—e.g., whether one has to actively push an innocent person to his death or merely flip a switch to produce the result—but some level of dissonance is virtually inescapable for anyone with normal moral sensibilities (see Cushman & Greene, this volume).

Moreover, a deontological choice should be particularly dissonance-inducing. In this case, the individual chooses to defy rational cost-benefit calculations to take a moral stand, refusing to sacrifice one life even though it would save five others. At some level, this kind of principled choice does not make sense (quite literally, it doesn't "add up"). Attributing disproportionate (sometimes infinite) value to certain acts or objects necessarily runs afoul of our sense of moral realism, our need to provide some "rational" justification for our beliefs. Individuals in these situations can and do appeal to principle as an explanation, but this is a difficult stance that conflicts with firmly entrenched and well-rehearsed economic intuitions. For this reason, true moral stands are inspiring when we see them. We respond positively to persuaders who argue against their own self-interest (Eagly, Wood, & Chaiken, 1978) and to "maverick" politicians who advocate positions that may hurt their standing within their own political party (Ditto & Mastronarde, 2009). But these instances are rare (and thus especially admirable), precisely because they seem to swim upstream against fundamental economic (i.e., consequentialist) sensibilities.

So what are the consequences of this moral dissonance? As we have known since Festinger's (1957) original statement of cognitive dissonance theory, dissonance is an unstable state, and the human mind works to resolve it by adding or adjusting cognitions in a way that moves beliefs toward greater harmony. We would expect morally relevant dissonance processes to operate in a similar fashion, and in fact, dissonance resolution may operate particularly smoothly in moral reasoning. An intuitionist perspective (Haidt, 2001) suggests that individuals recruit reasoning processes to justify their moral intuitions after the fact. The intuitive response to a particular dilemma could be based on moral values rooted in cultural or political socialization (Graham & Haidt, this volume) or on details inherent to the specific situation (e.g., revulsion at the thought of having to push a man to his death to stop a trolley), but the key point is that the process of justifying moral intuitions is top-down rather than bottom-up, and

consequently moral reasoning should be relatively easy fodder for confabulation by a motivated moral thinker (Ditto, Pizarro, & Tannenbaum, 2009).

The most obvious manifestation of this dissonance-reducing confabulation process would be manipulation of an act's cost-benefit ratio. Thus, if an individual's intuition favors a consequentialist response in a given situation (that it is permissible to engage in a undesirable act for a greater good), one way to bolster the moral correctness of that response would be to enhance the value and/or likelihood of the benefits of the act (e.g., the saving of five people or the deterrence of future crime) and downplay the value and/or likelihood of the costs of the act (e.g., sacrificing the life of a railroad worker or a convicted murderer).

We should note two important features of this process. First, the most effective way to reduce the psychological conflict is by constructing factual beliefs that support one's moral intuitions. An individual whose intuition favors the morality of the death penalty, for example, should find it reassuring to believe that capital punishment indeed serves as a deterrent to future murders. This intuition is likely to shape judgment and memory processes in a way that favors this preferred belief in the deterrent efficacy of the death penalty (Ditto & Lopez, 1992; Kunda, 1990). For similar reasons, the costs of capital punishment would seem most effectively downplayed by altering one's descriptive beliefs about the likelihood that innocent individuals are executed by mistake, or even the pain involved in executions.[1]

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[1] A question that may occur to readers at this point in our argument concerns what role, if any, "objective" reality plays in factual belief. That is, does it matter to our analysis whether capital punishment *actually* deters crime or the *veridical* frequency with which innocents are unjustly executed? For the most part, these questions are well beyond the scope of this chapter, and belong more in the realm of metaphysics than psychology. But a few quick points can be made. There is clear evidence from the motivated reasoning literature that people's judgments are generally responsive to the strength of available information; that people do not ignore plausible information to believe whatever they wish to believe just because they wish to believe it (Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998; Kunda, 1990). Festinger himself acknowledged such "reality constraints" in his 1957 book introducing cognitive dissonance theory when he noted that "If one sees the grass as green, it is very difficult to think it is not so" (pp. 24-25). Motivated reasoning processes are most pronounced when information is ambiguous or contradictory, but it is crucial to note that this is precisely the epistemic situation typified by virtually every judgment humans make (see Festinger, 1954), and certainly the sorts of sociopolitical judgments that concern us in this chapter. It would take a second chapter of at least this length to review the inconclusive and contradictory scientific data on the deterrent efficacy of capital punishment (e.g., Weisberg, 2005), and at the end we would be little closer to knowing whether capital punishment *actually* deters future crime. Some experts believe it does, others believe it does not. At that point, who is to judge who is *objectively* correct? Perhaps more importantly, only a handful of people who have firm opinions about the death penalty's deterrent effects have more than the most passing acquaintance with the relevant scientific data, so it strains plausibility to believe that the average person's attitudes and beliefs about capital punishment (or any similar issue for that matter) are based in any way on a sensitivity to what is objectively true. Psychologically, it is fair to say that belief is broadly constrained by pseudo-logical reasoning processes, but speculation about whether one set of beliefs is more correct than another is both

Second, this process has particularly provocative implications for deontological judgment. Theoretically, deontological judgments are independent of facts and cost-benefit considerations, but imagine an individual whose intuitions suggest that the death penalty is inherently immoral, yet who believes that it is an effective deterrent against future murders. Most of us would find this position morally admirable (perhaps even those who disagree with it) but psychologically challenging. And it is for this very reason, we believe, that such purely moral stands occur infrequently in the real world. It is much more likely, we suspect, that an individual who believes in the inherent immorality of capital punishment—and would even maintain that this belief is based on principle rather than consequences—will nonetheless come to believe that capital punishment is ineffective at deterring murder. The same pressure to bolster one's deontic stand is likely to organize beliefs about the undesirable costs of capital punishment, and the same tendency to square moral intuitions with factual beliefs should characterize any of the host of real-world moral dilemmas in which deontological and consequentialist intuitions collide.

In summary, then, we contend that when individuals have an intuitive moral reaction to a given issue, this intuition guides post hoc attempts to justify that reaction by strategically organizing factual beliefs about the costs and benefits of alternate courses of action. This should hold true even for (or even especially for) deontic intuitions that are typically considered to be independent of cost-benefit considerations. This leads to the interesting prediction that because of the unique dissonance they engender, deontological moral stands will often find support in a consequentialist crutch.

Previous Work on Moral and Factual Beliefs

The notion that moral values can shape factual beliefs is not new (Baron & Spranca, 1997; Juth & Lynoe, 2010; Kahan, Braman, Slovic, Gastil, & Cohen, 2007; Skitka & Mullen, 2002). The most extensive empirical work is that of Kahan and collaborators examining what they call "cultural cognition." Rather than examining moral values per se, they focus on how cultural values such as belief in the equal distribution of goods across individuals (individualism vs. egalitarianism) can influence factual beliefs about controversial political topics. In one study, for example, participants reactions to information about the human papillomavirus (HPV)

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precarious and a distraction from the more tractable enterprise of specifying the cognitive and affective processes that shape those beliefs.

vaccine polarized along cultural lines, such that individualists believed the HPV vaccine would be less likely to reduce rates of cervical cancer and more likely to encourage vaccinated females to have unprotected sex than did egalitarians. In other words, those least likely to support mandatory HPV vaccinations also thought it was least likely to be effective in producing benefits and most likely to have undesirable costs.

Similarly, in a theoretical analysis that anticipated our own, Baron and Spranca (1997) tested a number of predictions about their notion of "protected values" (values that "resist trade-offs with other values, particularly economic values"). They found that the more individuals characterized a value (e.g., prohibiting euthanasia) as absolute and protected from trade-offs, the more likely they were to deny that anything was lost for the sake of this value. In the authors' words, "People want to have their non-utilitarian cake and eat it too."

Motivated Consequentialism

Our own empirical work has focused specifically on responses to moral dilemmas that pit deontological against consequentialist intuitions. We examine people's moral choices and the ways in which they shape factual beliefs about both the benefits of an action and its potential costs.

Lifeboats and Trolleys

In our first set of studies, we presented college students with two classic moral dilemmas, the lifeboat dilemma, in which a choice must be made about whether to push an injured man off a lifeboat to prevent it from sinking (and thus killing all of the people aboard), and the footbridge version of the trolley problem (in which the action in question is pushing a large man off a footbridge to stop a runaway trolley). One alteration we made in both scenarios was to remove language asserting certainties between actions and consequences. That is, most previous research on moral judgment simplified moral choices by encouraging participants to assume that, for example, throwing a sick man overboard *would definitely* save the others in the lifeboat and that he *would certainly* die even if he were not sacrificed for the lives of the other passengers. We used softer probabilistic language in our scenarios because it was precisely the perception of these likelihoods that we were interested in studying.

In the lifeboat scenario, we asked participants to indicate whether they believed it was morally acceptable to throw the injured man overboard and then to assess: (a) the likelihood that

throwing him overboard would save the other passengers, (b) the likelihood that the injured man would die if not thrown overboard, and (c) how much pain the injured man would experience if thrown overboard. The pattern of responses we observed was perfectly consistent with our hypotheses based on the theoretical analysis presented earlier in the present chapter. Compared to participants who thought that sacrificing the injured man was morally acceptable, those who believed it was not morally acceptable also believed that sacrificing him had a lower probability of saving the other passengers, gave a higher probability that he was likely to survive if not thrown overboard, and believed that he would experience a more painful death if he was thrown over.

The obvious question about these results concerns their causal direction. We cannot know from this study whether prescriptive moral judgments shaped factual beliefs about costs and benefits, or whether participants decided that pushing the injured man overboard was wrong precisely because, for example, the likelihood that this act would save the other passengers was low. Nonetheless, it is worth considering the conceptual implications of this alternative causal scenario. In past moral judgment research (e.g., Bartels, 2008; Tanner et al., 2008), a participant who stated that it was morally unacceptable to sacrifice the injured man would have been characterized as making a deontological judgment (i.e., a judgment based on principle rather than the consequences of the act). But if it was truly the participant's cost-benefit calculations that led to the decision that sacrificing the man would be immoral, that judgment is anything but deontological. Rather, a consequentialist calculus can be posited to underlie either the belief that it is moral to sacrifice the man or the belief that it is not.

The footbridge scenario data pushes this point a bit farther. In that scenario, we did not specify the number of workmen who would be saved by pushing the large man onto the tracks. Instead, after reading the scenario, participants were asked to indicate how many workmen's lives would need to be saved in order for them to feel that it was morally acceptable to push him. They were given nine response options ranging from "at least two" to "at least 1000," with the final option being "I would never push the stranger, no matter how many lives would be saved." As in past studies using the footbridge dilemma, our participants were extremely reluctant to push the man onto the tracks, with 80% indicating that no trade-off in saved lives could justify this action. This allowed us to compare individuals who gave what appears to be a fully

deontological response, to the smaller set who endorsed some level of consequentialist trade-off. The pattern of descriptive beliefs observed was identical to those found in the lifeboat scenario. Compared to the consequentialist minority, participants who on the surface seemed to be taking a principled stand against sacrificing the large stranger gave a lower likelihood that pushing him onto the tracks would stop the trolley, gave a higher likelihood that the workers might get off the tracks before the trolley struck them, and gave higher estimates of the pain the large stranger would suffer if pushed onto the tracks. Again these results cannot resist an alternate causal interpretation, but they reveal even more clearly than the lifeboat results that a judgment that past researchers would typically have interpreted as implying a deontological moral stand, in our study is actually kept upright by leaning on a consequentialist crutch.

Real World Dilemmas

Besides the causal direction question (to which we will return shortly), the other clear limitation of this first set of results is their artificiality. We therefore set out to demonstrate a similar conflation of moral and factual beliefs in a set of real world dilemmas. The four we selected were: (1) *capital punishment*, where taking the life of a convicted murderer is balanced against the potential deterrence of future crime, (2) *forceful interrogation techniques,* where the suffering inflicted on individuals suspected of terrorism is balanced against the potential of collecting information that could prevent future terrorism, (3) *embryonic stem cell research*, where the destruction of human embryo cells is balanced against the potential of developing treatments for diseases, and (4) *condom promotion* in high school sex education classes, where the (at least implicit) condoning of sexual behavior in teenagers is balanced against the potential benefit of preventing sexually transmitted disease (STD) and unwanted pregnancy. These four issues have all been the focus of considerable controversy in recent years, and the four are ideologically balanced such that political conservatism is associated with favorable moral beliefs about the first two issues and unfavorable moral beliefs about the last two.

We presented information about these four dilemmas to approximately 1800 visitors to *yourmorals.org* (a data collection website offering participants the chance to complete various psychological, moral, and political scales in exchange for feedback about their responses; see also Graham & Haidt, this volume). In order to get a thoughtful assessment of the extent to which participants had deontic intuitions about each issue, participants were first asked to

provide a simple moral evaluation (e.g., with a scale judging the death penalty from "morally acceptable in most or all cases" to "morally wrong in most or all cases") and then an agree-disagree scale designed to tap willingness to accept trade-offs with regard to the issue (e.g., "The use of the death penalty as punishment for murder is morally wrong even if it discourages others from committing the same crime"). We believe this procedure made the more nuanced intent of the second scale clearer to participants, and items with this format were used as our measure of deontic intuitions about each of the four issues. For each issue we also asked a series of questions that assessed two key factual beliefs: (a) the likelihood that the action in question would produce its assumed beneficial effects and (b) the likelihood that the action in question would produce undesirable consequences (i.e., costs). So for example, questions about capital punishment focused on perceptions of its likelihood of deterring future murders (its main benefit) and whether executions caused suffering and how often they were carried out in error (undesirable costs). In every case but one, three or more questions tapped each construct, and reliable perceived benefit and perceived cost indices were created for each issue.

The results were remarkably consistent, both with each other and with our predictions. For all four issues, regression analyses revealed strong relations between deontic intuitions and perceived benefits and costs. Using forceful interrogations as an example, the more strongly participants endorsed the belief that forceful interrogation was morally wrong *even if* it was effective in getting terrorist suspects to talk, the less likely they were to believe it actually was effective, and the greater estimates they gave of the degree of physical and emotional stress it inflicted on its victims. The results for condom promotion were also fascinating, revealing that participants who most strongly believed that sex education programs encouraging condom use were morally wrong *even if* they prevented STDs and pregnancy, also had the strongest beliefs that such programs were no more effective than abstinence-based programs, that condoms themselves were ineffective in preventing STDs and pregnancy, and that promoting condoms simply made teenagers more likely to have sex.

Manipulating Deontic Intuitions

The results of our first two studies are impressive in their strength and consistency, and their oddly counterintuitive quality is exactly what one would expect if people experienced

psychological pressure to reinforce their deontic intuitions with consequentialist logic. But they are still correlational, so we designed a final study to confirm our beliefs about causal direction.

In that study, we picked one issue, capital punishment, and tried to manipulate deontic intuitions to see if this would alter consequentialist beliefs. Participants were college students who began the experimental session with a questionnaire asking them the same types of questions used in our correlational study, including their moral evaluation of capital punishment in its deontological form, their beliefs about its deterrent efficacy, and their beliefs about its undesirable costs (e.g., the likelihood of executing an innocent person). These questions were embedded in similar questions about the other issues to disguise our interest in them. Participants were told they would read an essay about one of the four issues chosen at random. All participants read essays about capital punishment, but some read an essay supportive of its morality and some an essay arguing against its morality. These essays were of a particular kind, however. They were designed to be purely deontological in quality. Neither essay made any arguments for or against the morality of capital punishment based on its effectiveness as a crime deterrent or likelihood of undesirable costs. The main points in the pro-death penalty essay were: (a) justice for a murderer is best and most fairly achieved with capital punishment; (b) premeditated murderers are—by their own choice—subhuman and do not deserve mercy; and (c) favoring capital punishment shows the highest form of regard for human life. The main points in the anti-death penalty essay were: (a) capital punishment is wrong because it is barbaric and inhumane; (b) it is wrong to punish violence with further violence; and (c) it is wrong to quantifiably measure death by saying some forms of homicide (e.g., drunk driving) deserve less punishment than other forms (premeditated murder). After reading the essay, participants completed a series of questionnaires in which were embedded the same questions about capital punishment they had completed at the pretest.

Results showed that even though the two measurements were typically taken less than a half hour apart, we were able to change both deontic intuitions about capital punishment and factual beliefs about its costs and benefits. Despite the fact that neither essay mentioned deterrent efficacy, only the principled morality or immorality of capital punishment, participants exposed to the pro-death penalty essay reported significantly stronger beliefs that capital punishment deterred crime than did participants exposed to the anti-death penalty essay. Furthermore,

participants who read the anti-death penalty essay became stronger believers that capital punishment causes an executed person significant suffering, and that it was frequently carried out mistakenly on innocent individuals than did participants exposed to the pro-death penalty essay.

Moral Naiveté?

Before we discuss the implications of these findings in greater depth, we should address a common question concerning whether the blurring of the lines between deontological and consequentialist thought observed in our studies is merely a product of our study participants' lack of experience grappling with complex moral issues. Perhaps individuals more practiced and informed, such as professional politicians, are less likely to show such effects.

An intriguing body of research, however, suggests quite the contrary, that more informed and sophisticated individuals are particularly prone to judgmental bias (Federico & Sidanius, 2002; Taber & Lodge, 2006; Vallone, Ross, and Lepper, 1985). Taber and Lodge (2006), for example, found that participants with more political knowledge (e.g., ones who could correctly answer questions about such things as the name of the office held by Antonin Scalia, a US Supreme Court Justice) showed more partisan bias when evaluating issues such as affirmative action and gun control policies than did less political savvy participants. A similar pattern was seen in Vallone et al.'s (1985) famous demonstration of hostile media bias. Examining pro-Arab and pro-Israeli reactions to media coverage of the 1982 Beirut Massacre, they found that greater knowledge of the event and its antecedents was associated with stronger beliefs that one's own side was treated more harshly by the media than the opposition, and with memories more biased toward remembering positive references to the other side and negative references to one's own. One way to interpret this pattern is that relative experts in any particular domain have more emotional commitment to their chosen attitudinal position and/or greater cognitive ammunition to defend it.

Our own data on real-world moral dilemmas reveal a similar pattern. One of the limitations of samples collected via *yourmorals.org* is that visitors to the site tend to be politically informed and highly educated (a substantial percentage have graduate degrees). So it is a sophisticated sample to begin with. More importantly, however, we collected measures of how informed participants perceived themselves to be about each issue under consideration as well as the degree to which they considered each issue a moral mandate (Mullen & Skitka,

2006). When these measures were included in regression analyses, we found that in almost every case our predicted effects were significantly stronger the more informed participants perceived themselves to be about the issue, and frequently stronger the more morally committed the participant was to their particular position on the issue. That is, the more participants felt they knew about the issue and the more they perceived it as a moral mandate, the more their cost-benefit perceptions were consistent with their moral intuitions. These data have obvious limitations, but together with the similar pattern found in previous studies, they suggest a very testable hypothesis that it may be political sophisticates rather than neophytes who are most prone to attitude-justifying biases.

Conclusions and Consequences

It is an odd coincidence (at least we think it is a coincidence) that in English we use the same word—right—to refer to both moral and factual correctness. In this chapter, however, we have argued that there may actually be some psychological substance to this linguistic homography. Our central point is that because of our desire to reify our moral intuitions—to transform them into moral "beliefs" that can be right or wrong in the same sense that factual beliefs can be right or wrong—we tend to shape our descriptive understanding of the world to fit our prescriptive understanding of it. At this level, the research reported here represents another example of a tendency, long noted by philosophers, for people to have trouble maintaining clear conceptual boundaries between what ought to be and what is (Hume, 1740/1985).

In particular, people seem to experience a fundamental conflict between deontic and consequentialist intuitions. Our sense that certain acts are simply wrong, in and of themselves, often clashes with knowledge suggesting that engaging in those acts is likely to produce moral benefits that seem to outweigh any tangible costs. Why not sell your deceased husband's wedding ring for a hefty profit? Why not sacrifice one life to save five? Our moral selves and our economic selves are not always good bedfellows (e.g., Baron & Spranca, 1997), and thus a rapprochement must be reached in which our moral balance sheet fits better with our moral intuitions.

It is because of this tendency toward deontological dissonance that pure deontological stands, in political discourse at least, are exceedingly rare. Try to imagine an example of a politician or pundit arguing that forceful interrogations are morally wrong while also admitting

that they are effective, or that the death penalty is wrong even though it deters crime. Standing on principle is a challenging psychological feat and it is often seen as both an admired moral virtue and a powerful persuasive tool precisely because it occurs so rarely.

The tendency for moral beliefs to shape factual ones has both theoretical and practical implications. Theoretically, as we noted earlier, it challenges simple distinctions between deontological and consequentialist judgments, especially regarding how these terms are used to describe research findings. A moral intuitionist position suggests that people seldom reason "up" to moral conclusions using deontological or consequentialist logic. Rather, they more typically generate this logic from the top-down, and thus are likely to latch onto any justification they can find to support their intuitions. Our data confirm this tendency, and suggest that characterizing certain moral positions as deontological may be particularly misleading. It is time to stop using reasoning-based terms to describe intuitively based judgments.

Practically, the tendency for people to harness factual beliefs to support entrenched moral commitments can be linked to a number of social and political controversies. For example, abstinence-only sexual education programs have yielded notoriously poor results, typically producing little or no delay in onset of sexual intercourse, often accompanied by an increased tendency to engage in unsafe sex practices (Santelli et al., 2006). This is precisely the pattern our analysis would predict. It is difficult to maintain the belief that encouraging the use of condoms is morally wrong and also that it is effective in preventing STDs and pregnancy. One way to bolster this belief with consequentialist logic is to come to believe that condoms themselves are ineffective (providing another reason, besides principle, not to promote them). We found exactly this pattern of beliefs in our data, and abstinence-only sexual education programs are well known for disparaging the effectiveness of safe-sex practices (Santelli et al., 2006). In fact, a recent study found that an abstinence-education program that did not denigrate the effectiveness of condoms was effective in delaying students' onset of first intercourse compared to a control health promotion intervention (Jemmott, Jemmott, & Fong, 2010).[2]

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[2] We cite this example because the current analysis can speculatively explain an odd phenomenon—that abstinence-only sex education programs often produce an increase in unsafe sex—not to imply that political conservatives are more prone to coordinate moral and factual beliefs than are political liberals. As discussed in an earlier footnote, psychological analyses are for the most part ill equipped to assess the accuracy of beliefs. Comparing the magnitude of a specific judgmental bias across different groups is potentially more tractable, but considerably more difficult than it might initially appear. To date, we have neither the data to support, nor any clear theoretical reason to predict,

Finally and most generally, as avid observers of contemporary American politics, we find it hard not to notice how the vicious partisan battles that dominate political discourse are fueled by huge discrepancies in factual beliefs. Liberals and conservatives have well documented differences in their moral sensibilities (e.g., Graham & Haidt; Janoff-Bulman, this volume). Although these present obvious challenges to political compromise, one could imagine an ideal world in which such differences of opinion were settled with reference to data. If conservatives find liberals' support for government intervention in the economy morally distasteful, and favor instead across-the-board tax cuts, the solution would seem to require only a simple check of the data to see which strategy was most effective. But what can be done when liberals contend that the recent economic stimulus package created two million new jobs, and conservatives assert that it has created not a one (Lee, 2010)? Liberals and conservatives similarly have differing moral reactions about forceful interrogation of terrorism suspects, but spend almost all of their time disputing their radically different beliefs about its effectiveness (Ackerman, 2010).

It is difficult enough to resolve differences of moral opinion, but when these differences align themselves almost perfectly with differing perceptions of fact, it presents a major obstacle to fruitful negotiation. The tendency for people to shape factual beliefs to reinforce moral and ideological commitments is a compromise killer and conversation stopper. The hypothesis that this may be especially characteristic of people with deep ideological commitments and extensive factual knowledge would explain a lot about the current state of American politics. In the intense partisan bickering that proceeded the recent passage of the controversial health care reform bill in the United States, several prominent Democratic politicians, including President Barack Obama, responded to Republican politicians with variants of a line usually attributed to former Senator Daniel Patrick Moynihan, "You are entitled to your own opinion. But you are not entitled to your own facts." One can rest assured that Republicans feel the same way about the Democrats' facts, and that each side's moral beliefs seem as real to them as the moral and political conflict they inevitably engender.

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that the processes discussed in this chapter are more pronounced in individuals of one particular political persuasion compared to another. We agree that this is a fascinating question for future research to address, but we have tried to take care throughout this chapter to balance our use of examples (e.g., conservative resistance to stem cell research vs. liberal resistance to enhanced interrogation), consistent with our current working presumption that motivated consequentialism is an equal opportunity bias.

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