Affect, Moral Intuition, and Risk

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The natural way to deal with moral issues involving risk is to rely on our intuitive feelings. "How bad is it? Well, how bad does it feel?" We can also rely on reason to determine right and wrong but, as Jonathan Haidt has demonstrated, intuition comes first and dominates our responses unless we make an effort to critique and, if necessary, override it. We argue that our intuitive feelings are insensitive to large losses of life and thus mislead us in the face of natural disasters or human disasters associated with poverty, disease, and violence. Our intuitions seduce us into calmly turning away from these catastrophes, when we should be driven by outrage or sorrow to act. We propose ways to overcome this insensitivity through new forms of education and communication coupled with reliance on moral deliberation aimed at designing laws and institutions that compel attention to such problems.

In a recent article, Seligman and Kahana (2010) observed that "as ubiquitous as intuitive decision making is, its cognitive architecture is essentially a mystery" (p. 399). They conjectured that intuitive decision making is closely linked to recognition memory. Through experience, an individual forms a mental model in which multiple aspects of the decision problem acquire "weights" that are summed in some manner to produce a resultant value that guides decisions.

Seligman and Kahana's view of intuition is interesting to examine in light of what has been learned about how people judge and make decisions about risk. Risk in the modern world is perceived and acted upon in two fundamental ways (Slovic & Peters, 2006). Risk as feelings refers to our instinctive and intuitive reactions to danger. Risk as analysis brings logic, reason, and scientific deliberation to bear on risk assessment and decision making. This article discusses what recent research reveals about risk as feelings, an important vestige of humans' evolutionary journey.

Seligman and Kahana were not specific as to what form of computational model underlies intuition. It strikes us that one such model is cleverly illustrated in a cartoon by Gary Trudeau (Figure 1). Trudeau's two characters decide whether it is safe to greet one another on a city street by systematically tabulating a list of risk and risk-mitigating factors to determine which are more numerous. The reader instantly recognizes that people in such a situation would never be this explicitly analytical, even if their lives were at stake. Most risk analysis in daily life is handled quickly and intuitively by feelings arising from what is known as the "experiential" mode of thinking.

Background and Theory: The Importance of Specific Emotions and Affect

Affect, in all its various forms, serves different functions in motivating behavior. For example, strong visceral emotions such as fear and anger sometimes play a role in risk as feelings. These two emotions appear to have opposite effects—fear amplifies risk estimates, and anger attenuates them (Lerner, Gonzalez, Small, & Fischhoff, 2003; Lerner & Keltner, 2000). Lerner and colleagues have explained these differences by proposing that fear arises from appraisals of certainty and situational control, whereas anger arises from appraisals of certainty and individual control.

Fortunately, most of the time people are in a calmer state, being guided by much subtler feelings. We focus this review on a "faint whisper of emotion" called affect. We use the term affect to mean the specific quality of "goodness" or "badness" (a) experienced as a feeling state (with or without consciousness) and (b) demarcating a positive or negative quality of a stimulus (including variations in arousal thus making it similar to what Russell, 2003, termed "core affect"). A characteristic of core affect is that it is always present in one form or another. This form of affect is therefore likely to be used in judgments and decisions. We have used the term "the affect heuristic" to characterize reliance on such feelings (Slovic, Finucane, Peters, & MacGregor, 2002); the experienced feelings are used as information to guide judgment and decision making (Schwarz & Clore, 1988). It is important to note that both integral affect (positive and negative feelings about a stimulus experienced while considering the
Figure 1. Street calculus. Copyright © 1994 G. B. Trudeau. Reprinted with permission.
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stimulus) and incidental affect (positive and negative feelings such as mood states that are independent of a stimulus but can be misattributed to it) are used in judgments and decisions.

A large body of research documents the importance of affect in conveying meaning upon information and motivating behavior. Without affect, information lacks meaning and will not be used in judgment and decision making (see, e.g., Butelman, Dent, Peters, Slovic, & Starmer, 2007). But affect also serves other functions. For instance, many theorists have given affect a direct and primary role in motivating behavior. Pleas­ant feelings motivate actions that people anticipate will reproduce those feelings. Unpleasant feelings motivate actions that people anticipate will diminish those feel­ings (Västfjäll & Gärling, 2006).

Affect can also serve as a spotlight, guiding information processing (Peters, 2006) and is a “common currency” allowing decision makers to compare apples to oranges (Cabanac, 1992). Montague and Berns (2002) linked this notion to “neural responses in the orbitofrontal-striatal circuit which may support the conversion of disparate types of future rewards into a kind of internal currency, that is, a common scale used to compare the valuation of future behavioral acts or stimuli” (p. 265). By translating more complex thoughts into simpler affective evaluations, decision makers can compare and integrate good and bad feelings rather than attempting to make sense out of a multitude of conflicting logical reasons (Peters, Västfjäll, Gärling, & Slovic, 2006).

Affect thus appears to play a central role in what are known as dual-process theories of thinking. According to these theories, people apprehend reality in two fundamentally different ways, one labeled intuitive, automatic, natural, nonverbal, narrative, and experiential (sometimes referred to as System 1), and the other analytical, deliberative, and verbal (referred to as System 2; see, e.g., Epstein, 1994; Stanovich & West, 2000). One of the main characteristics of the intuitive, experiential system is its affective basis. Although analysis is certainly important in some decision-making circumstances, reliance on affect is generally a quicker, easier, and more efficient way to navigate in a complex, uncertain, and sometimes dangerous world. In line with this thinking, we construe intuition as an affective mode of thinking. A computational model of intuition thus must model the affect system and its interaction with deliberative thinking.

It is important to note that there are strong elements of rationality in both systems of thinking. The exper­iential system enabled human beings to survive as they evolved. Intuition, instinct, and gut feeling were relied upon to determine whether an animal was safe to approach or the water was safe to drink. As life became more complex and humans gained more control over their environment, analytic tools such as prob­ability theory, risk assessment, and decision analysis were invented to “boost” the rationality of experiential thinking.

The Affect Heuristic

Evidence of risk as feelings was present in early studies of risk perception (Fischhoff, Slovic, Lichtenstein, Read, & Combs, 1978). Those studies showed that feelings of dread were the major determiner of public perception and acceptance of risk for a wide range of hazards. This explained, for example, why many people judge radiation exposure from nuclear power plants (highly dreaded) as far riskier than radiation from medical X-rays—an assessment not shared by risk experts. In today’s world, terrorism has replaced nuclear power at the top of the list of widely dreaded risks.

Research has found that, whereas risk and benefit tend to be positively correlated across hazardous activities in the world (i.e., high-risk activities tend to have greater benefits than do low-risk activities), they are negatively correlated in people’s minds and judgments (i.e., high risk is associated with low benefit, and vice versa). The significance of this finding was not realized until a study by Alhakami and Slovic (1994) found that the inverse relationship between perceived risk and perceived benefit of an activity (e.g., using pesticides) was linked to the strength of positive or negative affect associated with that activity as measured by rating the activity on bipolar scales such as good/bad, nice/awful, and so forth. This finding implies that people judge a risk not only by what they think about it but also by how they feel about it. If their feelings toward an activity are favorable, they tend to judge the risks as low and the benefits as high; if their feelings toward the activity are unfavorable, they tend to make the opposite judgment—high risk and low benefit (i.e., the affect heuristic; Finucane, Alhakami, Slovic, & Johnson, 2000).

If affect guides perceptions of risk and benefit, then providing information about benefit should change people’s perception of risk and vice versa (see Figure 2). For example, information stating that benefit is high for a technology such as nuclear power should lead to more positive overall affect, which should, in turn, decrease perceived risk (Figure 2A).

Finucane et al. (2000) tested this hypothesis for various technologies, providing information designed to manipulate affect by increasing or decreasing perceived benefit for the technology or by increasing or decreasing its perceived risk. Their predictions were confirmed. Further support for the affect heuristic came from a second experiment by Finucane et al. showing that the inverse relationship between perceived risks and benefits increased greatly under time
Figure 2. A model, based on the affect heuristic, showing how information about benefit (A) or information about risk (B) could increase the positive affective evaluation of nuclear power and lead to inferences about risk and benefit that coincide affectively with the information given. Similarly, information could make the overall affective evaluation of nuclear power more negative (as in C and D), resulting in inferences about risk and benefit that are consistent with this more negative feeling. Note. From “The Affect Heuristic in Judgments of Risk and Benefits” by M. L. Finucane, A. Alhakami, P. Slovic, and S. M. Johnson, 2000, Journal of Behavioral Decision Making, 13, p. 9. Copyright 2000 by Wiley. Reprinted with permission.

As a key element of experiential thinking, the affect heuristic was essential to risk assessment and survival during the evolution of the human species. But, just as overusing deliberation (as in the previous street calculus example) may be detrimental to decision, affect can also mislead people.
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intolerable and was soon fixed by altering the airstrip lighting (Palmisano & Gillam, 2005).

In the next sections of this article we document systematic illusions that mislead our intuitive feelings about risk, causing us to do far less than we should in response to certain threats to human lives and the environment. These deadly illusions, too, need to be fixed, as were the landing-lights illusions.

Facing Catastrophic Loss of Life

Affect may misguide us in important ways. Most of the time people imbue information with affective meaning. For example, in a simple game of repeated investment choices, normal individuals use feelings to guide choices to keep (risk averse) or invest (risk seeking) money (Shiv, Loewenstein, Bechara, Damasio, & Damasio, 2005). In this study the affect associated with gambling leads normal patients, but not neurologically impaired patients who lack affect, to lose money. Sometimes having no affect may be beneficial. But a lack of affect will most often lead to inaction and suboptimal choices. Particularly problematic for our intuitions about risk is the difficulty of comprehending the meaning of catastrophic losses of life when relying on feelings.

Research reviewed next shows that disaster statistics, no matter how large the numbers, lack emotion or feeling. As a result, they fail to convey the true meaning of such calamities and they fail to motivate proper action to prevent them.

The psychological factors underlying insensitivity to large-scale losses of human lives apply to catastrophic harm resulting from human malevolence, natural disasters, and technological accidents. In particular, the psychological account described here can explain, in part, our failure to respond to the diffuse and seemingly distant threat posed by global warming as well as the threat posed by the presence of nuclear weaponry. Similar insensitivity may also underlie our failure to respond adequately to problems of famine, poverty, and disease afflicting large numbers of people around the world and even in our own backyard. We choose in the next sections to focus on insensitivity due to human malevolence, as in the case of mass murder and genocide.

The Darfur Genocide

Since February 2003, hundreds of thousands of people in the Darfur region of western Sudan, Africa have been murdered by government-supported militias, and millions have been forced to flee their burned-out villages for the dubious safety of refugee camps. This has been well documented. And yet the world looks away.

The events in Darfur are the latest in a long list of mass murders since World War II to which powerful nations and their citizens have responded with indifference. In her Pulitzer Prize-winning book A Problem from Hell: America and the Age of Genocide, Samantha Power (2003) documented in meticulous detail many of the numerous genocides that occurred during the past century. In every instance, American response was inadequate. She concluded, “No U.S. president has ever made genocide prevention a priority, and no U.S. president has ever suffered politically for his indifference to its occurrence. It is thus no coincidence that genocide rages on” (p. xxi).

The U.N. General Assembly adopted the Convention on the Prevention and Punishment of the Crime of Genocide in 1948 in the hope that “never again” would there be such odious crimes against humanity as occurred during the Holocaust of World War II. Eventually some 140 states would ratify the Genocide Convention, yet it has never been invoked to prevent a potential attack or halt an ongoing massacre. Darfur has shone a particularly harsh light on the failures to intervene in genocide. As Just (2008) has observed,

We are awash in information about Darfur. . . . No genocide has ever been so thoroughly documented while it was taking place . . . but the genocide continues. We document what we do not stop. The truth does not set anybody free. . . . How could we have known so much and done so little? (pp. 36, 38)

Affect, Analysis, and the Value of Human Lives

Pondering Darfur and other mass atrocities brings us to a crucial question: How should we value the saving of human lives? An analytic answer would look to basic principles or fundamental values for guidance. For example, Article I of the U.N. Universal Declaration of Human Rights asserts that “all human beings are born free and equal in dignity and rights.” We might infer from this the conclusion that every human life is of equal value. If so, then—applying a rational calculation—the value of saving N lives is N times the value of saving one life, as represented by the linear function in Figure 3.

An argument can also be made for judging large losses of life to be disproportionately more serious because they threaten the social fabric and viability of a group or community (see Figure 4). Debate can be had at the margins over whether one should assign greater value to younger people versus the elderly, or whether governments have a duty to give more weight to the lives of their own people, and so on, but a perspective approximating the equality of human lives is rather uncontroversial.
How do we actually value human lives? Research provides evidence in support of two descriptive models linked to affect and intuitive thinking that reflect values for lifesaving profoundly different from those depicted in the normative (rational) models shown in Figures 3 and 4. Both of these descriptive models demonstrate responses that are insensitive to large losses of human life, consistent with apathy toward genocide.

As psychophysical research indicates, constant increases in the magnitude of a stimulus typically evoke smaller and smaller changes in response. Applying this principle to the valuing of human life suggests that a form of psychophysical numbing may result from our inability to appreciate losses of life as they become larger. The function in Figure 5 represents a value structure in which the importance of saving one life is great when it is the first, or only, life saved but diminishes as the total number of lives at risk increases. Thus, psychologically, the importance of saving one life pales against the background of a larger threat: We may not “feel” much difference, nor value the difference, between saving 87 lives and saving 88.

Fetherstonhaugh, Slovic, Johnson, and Friedrich (1997) demonstrated this potential for psychophysical numbing in the context of evaluating people’s willingness to fund various lifesaving interventions. In a study involving a hypothetical grant-funding agency, respondents were asked to indicate the number of lives a medical research institute would have to save to merit receipt of a $10 million grant. Nearly two thirds of the respondents raised their minimum benefit requirements to warrant funding when there was a larger at-risk population, with a median value of 9,000 lives needing to be saved when 15,000 were at risk (implicitly valuing each life saved at $1,111), compared to a median of 100,000 lives needing to be saved out of 290,000 at risk (implicitly valuing each life saved at $100). Thus respondents saw saving 9,000 lives in the smaller population as more valuable than saving more than 10 times as many lives in the larger population. The same study also found that people were less willing to send aid that would save 4,500 lives in Rwandan refugee camps as the size of the camps’ at-risk population increased.

In recent years, vivid images of natural disasters in South Asia and the American Gulf Coast, and stories of individual victims there, brought to us through relentless, courageous, and intimate news coverage,
unleashed an outpouring of compassion and humanitarian aid from all over the world. Perhaps there is hope here that vivid, personalized media coverage featuring victims could also motivate intervention to prevent mass murder and genocide.

Perhaps. Research demonstrates that people are much more willing to aid identified individuals than unidentified or statistical victims. But a cautionary note comes from a study in which people who had just participated in a paid psychological experiment were given the opportunity to contribute up to $5 of their earnings to the charity Save the Children (Small, Loewenstein, & Slovic, 2007). When there was an identified victim, a 7-year-old African girl named Rokia, of whom they were shown a picture, they contributed more than twice the amount given by a second group who were asked to donate to the same organization working to save millions of Africans (statistical lives) from hunger. Respondents in a third group were asked to donate to Rokia but were also shown the larger statistical problem (millions in need) shown to the second group. Unfortunately, coupling the large-scale statistical realities with Rokia’s story significantly reduced contributions to Rokia (see Figure 6).

Why did this occur? Perhaps the presence of statistics reduced the attention to Rokia essential for establishing the emotional connection necessary to motivate donations. Alternatively, recognition of the millions who would not be helped by one’s small donation may have produced negative feelings that inhibited donations. Note the similarity here at the individual level to the failure to help 4,500 people in the larger refugee camp. Other research has established that people help others, in part, to make themselves feel good (Andreonl, 1990; Dunn, Aknin, & Norton, 2008). We hypothesize that knowledge of those “out of reach” (more in the large refugee camp and millions of starving people in Africa) triggers negative feelings that counter the good feelings that result from giving aid, thus demotivating action. This is nonrational. We should not be deterred from helping those we can help just because there are others we cannot help.

In sum, research on psychophysical numbing is important because it demonstrates that feelings necessary for motivating lifesaving actions are not congruent with the normative/rational models in Figures 3 and 4. The nonlinearity displayed in Figure 5 is consistent with the devaluing of incremental loss of life against the background of a large tragedy. It can thus explain why we don’t feel any different upon learning that the death toll in Darfur is closer to 400,000 than to 200,000. What it does not fully explain, however, is apathy toward genocide, inasmuch as it implies that the response to initial loss of life will be strong and maintained, albeit with diminished sensitivity, as the losses increase. Evidence for a second descriptive model, better suited to explain apathy toward large losses of lives, follows.

The Collapse of Compassion

American writer Annie Dillard (1999) read in her newspaper the headline “Head-Spinning Numbers Cause Mind to Go Slack.” She struggled to think straight about the great losses that the world ignores: “More than two million children die a year from diarrhea and eight hundred thousand from measles. Do we blink? Stalin starved seven million Ukrainians in one year, Pol Pot killed two million Cambodians...” She wrote of “compassion fatigue” and asked, “At what number do other individuals blur for me?” (pp. 130-131).

An answer to Dillard’s question is beginning to emerge from behavioral research. Studies by social psychologists find that a single individual, unlike a group, is viewed as a psychologically coherent unit. This leads to more extensive processing of information and stronger impressions about individuals than about groups. Consistent with this, a study in Israel found that people tend to feel more distress and compassion and to provide more aid when considering a single victim than when considering a group of eight victims (Kogut & Ritov, 2005). A follow-up study in Sweden found that people felt less compassion and donated less aid toward a pair of victims than to either individual alone (Västfjäll, Peters, & Slovic, 2009). Perhaps the blurring that Annie Dillard asked about begins for groups as small as two people.

The insensitivity to lifesaving portrayed by the psychophysical-numbing model is unsettling. But the studies just described suggest an even more disturbing psychological tendency. Our capacity to feel is limited. To the extent that valuation of lifesaving depends on feelings driven by attention or imagery, it might follow the function shown in Figure 7, where the emotion or affective feeling is greatest at $N = 1$ but begins to decline at $N = 2$ and collapses at some higher value of $N$ that becomes simply “a statistic.” Whereas Robert J. Lifton coined the term *psychic numbing* to describe the
"turning off" of feeling that enabled rescue workers to function during the horrific aftermath of the Hiroshima bombing, Figure 7 depicts a form of psychophysical numbing that is not beneficial. Rather, it leads to apathy and inaction, consistent with what is seen repeatedly in response to mass murder and genocide.

The Failure of Moral Intuition

Thoughtful deliberation takes effort. Fortunately evolution has equipped us with sophisticated cognitive and perceptual mechanisms that can guide us through our daily lives efficiently, with minimal need for "deep thinking."

Consider how we typically deal with risk. Long before we had invented probability theory, risk assessment, and decision analysis, there were such faculties as intuition, instinct, and gut feeling, honed by experience, to tell us whether an animal was safe to approach or water was safe to drink. As life became more complex and humans gained more control over their environment, analytic ways of thinking evolved to boost the rationality of our experiential reactions. Beyond the question of how water looks and tastes, we now can look to toxicology and analytic chemistry to tell us whether it is safe to drink. But we still use our feelings as well, an easier path.

As with risk, the natural and easy way to deal with moral issues is to rely on our intuitions: "How bad is it?" Well, how bad does it feel? We can also apply reason and logical analysis to determine right and wrong, as our legal system attempts to do. But, as Jonathan Haidt, a psychologist at the University of Virginia, has demonstrated, moral intuition comes first and usually dominates moral judgment unless we make an effort to critique and, if necessary, override our intuitive feelings (Haidt, 2001, 2007). As Haidt (2001) put it, moral intuition can be defined as the sudden appearance in consciousness of a moral judgment, including an affective valence (good-bad, like-dislike) without any conscious awareness of having gone through steps of searching, weighing evidence, or inferring a conclusion. Moral intuition is therefore... akin to aesthetic judgment. One sees or hears about a social event and one instantly feels approval or disapproval. (p. 818)

Unfortunately, moral intuition fails us in the face of genocide and other disasters that threaten human lives and the environment on a large scale. We cannot trust it. It depends upon attention and feelings that may be hard to arouse and sustain over time for large numbers of victims, not to mention numbers as small as two. Left to its own devices, moral intuition will likely favor individual victims and sensational stories that are close to home and easy to imagine. Our sizable capacity to care for others may be demotivated by negative feelings resulting from thinking about those we cannot help. Or it may be overridden by pressing personal and local interests. Compassion for others has been characterized by social psychologist Daniel Batson (1990) as "a fragile flower, easily crushed by self-concern" (pp. 344-345). Faced with genocide and other mass tragedies, we cannot rely on our moral intuitions to guide us to act properly. All too often, these intuitions seduce us into calmly turning away from massive losses of human lives, when we should be driven by outrage to act. This is no small weakness in our moral compass.

Educating Moral Intuitions

A natural response to the growing awareness of our insensitivity to problems of scale is to consider ways to educate moral intuitions. But how can we modify our gut instincts to better understand and respond to problems large in scope? This is not an easy question to answer, but we can speculate about possible ways forward.

To increase affective response, we first need to identify basic operating characteristics of this system and its interaction with the deliberative system. As pointed out by Seligman and Kahana (2010; see also Hogarth, 2001), providing simulated or actual experiences may be a key to fine-tuning our moral intuitions. A critical component of being an "expert" is experience. Chess players, radar operators, and football players become good by practicing hard (Lehner, 2009). Practice creates experiences. Thus, to become "expert" at moral intuitions we may need to practice more (e.g., by giving help). But how can this be achieved when inaction is the problem in the first place? How can we convince people that "just do it" is a good thing in the realm of moral issues?

Maybe we can "talk" to the affective system. Empirical studies using self-report measures (Dunn et al.,
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2008) as well as brain imaging (Harbaugh, Mayr, & Burghart, 2007) show that we are happier when we help others in need. Reward structures in our brain become activated when we give to those who are in need (Alford, Hibbing, Lohrenz, Harvey, & Montague, 2009). In fact, donating money to charitable causes seems to be a major determinant of happiness (Anik, Akinin, Norton, & Dunn, in press; Dunn et al., 2008). The hedonic benefits of giving (a System 1 response) should therefore be a strong motivator for action. If giving makes you feel good, give. Yet we seem to respond with inaction for many large-scale tragedies. Maybe System 2 is to blame? System 1 is focused on “now,” whereas our future-oriented thinking relies on System 2 deliberation. Actions are often initiated based on more or less cognitive forecasts or predictions of how we will feel, react, and respond (affective forecasting; Wilson & Gilbert, 2003). Unfortunately, our predictions are often wrong. Without experiencing the affect now, our representations of future affect are reliably off-target (a hot–cold empathy gap; Loewenstein, 1996). What seems an error of System 1, failure to take action, may partly be a System 2 error—an affective forecasting error (Dunn & Ashton-James, 2008).

A way to increase action, therefore, may be to “nudge” individuals to take action. If the hedonic benefits of giving are as large as we expect, merely pushing individuals gently to initiate giving may launch a self-propelled mechanism. Through experience, individuals may learn that doing good feels good and may therefore be motivated to continue to do good. Forcing such behaviors will likely not be effective, but perhaps this can be achieved through small steps. For instance, if donating a small percentage of the cost of your phone bill to charity is a default option, few individuals will opt out (Johnson & Goldstein, 2003) and the individual may feel good about giving. There is even a term, “warm glow,” used to describe the positive affect associated with helping someone else (Andreoni, 2006). Educating our moral intuitions through experience and simulation may be a way to capitalize on this human quality.

Another way of energizing System 1 is by changing the way we frame information. As noted earlier, the affective system primarily deals with the here and now and with concrete images. We speculate that reframing a large-scale problem so that it “fits” the requirements of System 1 may be a way of increasing affect, attention, and action. For instance, “800,000 killed in the last 100 days” can be broken down and reframed as “1 life lost every 11 seconds.” The latter represents a situation where the singularity effect (the increased response to one individual in the collapse model described earlier) is located in time. Both the one life lost and the near-time horizon of “every 11 seconds” induce accessible images and thus are likely to create more affect and different information processing (Trope & Liberman, 2003).

More generally, if statistics represent “human beings with the tears dried off,” tears and feeling can be increased by highlighting the images that lie beneath the numbers. For example, organizers of a rally designed to get Congress to do something about 38,000 deaths a year from handguns piled 38,000 pairs of shoes in a mound in front of the Capitol (“38,000 Shoes,” 1994). Students at a middle school in Tennessee, struggling to comprehend the magnitude of the Holocaust, collected 6 million paper clips as a centerpiece for a memorial (Schroeder & Schroeder-Hüllebrand, 2004). Flags were “planted” on the lawn of the University of Oregon campus to represent the thousands of American and Iraqi war dead (see Figure 8). In this light it is instructive to reflect on the characterization by Holocaust survivor Abel Hertzberg: “There were not six million Jews murdered: there was one murder, six million times.”

When it comes to eliciting compassion, psychological experiments demonstrate that the identified individual victim, with a face and a name, has no peer, providing the face is not juxtaposed with the statistics of the larger need (Small et al., 2007). But we know this as well from personal experience and media coverage of heroic efforts to save individual lives. The world watched tensely as rescuers worked for several days to rescue 18-month-old Jessica McClure, who had fallen 22 feet into a narrow abandoned well shaft. Charities such as Save the Children have long recognized that it is better to endow a donor with a single, named child to support than to ask for contributions to the bigger cause.

The face need not even be human to motivate powerful intervention. A dog stranded aboard a tanker adrift in the Pacific was the subject of one of the most costly rescue 18-month-old Jessica McClure, who had fallen 22 feet into a narrow abandoned well shaft. Charities such as Save the Children have long recognized that it is better to endow a donor with a single, named child to support than to ask for contributions to the bigger cause.

The face need not even be human to motivate powerful intervention. A dog stranded aboard a tanker adrift in the Pacific was the subject of one of the most costly rescue missions ever (Vedantam, 2010). Hearing this, columnist Nicholas Kristof (2007) recalled cynically that a single hawk, Pale Male, evicted from his nest in Manhattan, aroused more indignation than 2 million homeless Sudanese. He observed that what was needed was to galvanize the American public and their leaders to respond to the genocide in Darfur was a suffering puppy with big eyes and floppy ears: “If President Bush and the global public alike are unmoved by the slaughter of hundreds of thousands of fellow humans, maybe our last, best hope is that we can be galvanized by a puppy in distress” (para. 9).

Further to this last point, Farmer (2005) has written eloquently about the power of images, narratives, and first-person testimony to overcome our “failure of imagination” in contemplating the fate of distant, suffering people. Such documentation can, he asserted, render abstract struggles personal and help make human rights violations “real” to those unlikely to suffer...
them. Who hasn’t gained a deeper understanding of the Holocaust from reading Elie Wiesel’s Night or The Diary of Anne Frank? Fiction, too, can create empathy and meaning. Barbara Kingsolver (1995) conveyed this rather elegantly:

The power of fiction is to create empathy. . . . A newspaper could tell you that one hundred people, say, in an airplane, or in Israel, or in Iraq, have died today. And you can think to yourself, “How very sad,” then turn the page and see how the Wildcats fared. But a novel could take just one of those hundred lives and show you exactly how it felt to be that person. . . . You could taste that person’s breakfast, and love her family, and sort through her worries as your own, and know that a death in that household will be the end of the only life that someone will ever have. As important as yours. As important as mine. (p. 231)

If the power of the narrative and the personal story can be used to enhance the understanding of large numbers, we should think about how to use this to educate children about numbers. We teach children about the mechanics of operations such as addition, division, and so on, but we do not teach them how to “feel the meaning” behind numbers that represent real-life entities such as people and endangered species. Research in numerical cognition suggest that we have an “intuitive number sense” (Dehaene, 1997) that allows us to represent and manipulate numerical quantities nonsymbolically (Peters, Slovic, Viastfjäll, & Mertz, 2008). This number sense provides the conceptual basis for mapping numerical symbols onto their meaning (e.g., Dehaene, 2001) and is present even in infants (Libertus & Brannon, 2009). Yet people fail to assign meaning to large numbers. The number sense initially develops to deal with precise representation of small numbers, whereas large quantities are only approximate representations (Feigenson, Dehaene, & Spelke, 2004). The development of a nonverbal number sense, with the ability to approximate larger magnitudes, appears to depend on the input a child receives (Clements & Sarama, 2007). Thus, children have the tools for understanding large numbers but are not given sufficient knowledge on how to apply these tools to appropriately deal with real-world numbers. We believe that development of methods designed to help children “feel the meaning” of numbers might be an important way to combat scope insensitivity and psychic numbing. Maybe the intuitive number sense can be more tightly coupled with our moral senses by educating children about the affective meaning of numbers.

From Moral Intuition to Moral Judgment

If strategies to educate intuition and overcome psychic numbing are successful, there will be an upsurge of emotion that needs to be channeled into effective action by national governments. Here is where moral intuitions need to be bolstered by moral judgment to design laws and institutions that commit states to respond
to mass tragedies rather than being silent witnesses. And if education of intuition proceeds slowly or not at all, maintaining the current level of psychic numbing, recognition of the deficiencies of moral intuition points even more strongly to the need for System 2 mechanisms to protect human rights. The Convention on the Prevention and Punishment of the Crime of Genocide (U.N. General Assembly, 1948) and the United Nations were supposed to do this but they have repeatedly failed. Efforts to address this with new treaties such as “responsibility to protect” (U.N. General Assembly, 2005) are urgently needed.

Recognizing that international actors will resist laws that precommit them to act to prevent or stop genocide, Slovic (in press) proposed a “softer” solution based on the intrinsic reasonableness of System 2 thinking. Specifically, officials should be required to publically deliberate and reason about actions to take in response to genocide and other mass atrocities. Just as we expect government to proffer reasons to justify intervention, we should expect and require public justification for decisions not to intervene to save human lives. This merging of System 1 outrage with System 2 deliberation may be achieved through the reporting requirements of a deliberation-forcing regime that would likely ramp up pressure on governments to take action.

The stakes are high. Failure to overcome the numbing to which our moral intuitions are susceptible may force us to passively witness another century of genocide and mass abuses of innocent people, as in the previous century.

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Note

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