

When Bad Thinking Happens to Good People

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How Philosophy Can Save Us
from Ourselves

Steven Nadler
Lawrence Shapiro

PRINCETON UNIVERSITY PRESS
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savvy. Acting on incomplete knowledge or without the requisite skills can doubtless lead to disagreeable consequences. However, a person who does so might be blameless—morally blameless, if she really could not have done otherwise, and even epistemically blameless, if she could not possibly have known better. We often have no choice but to act in ignorance of all the facts, the knowledge of which may be beyond our grasp, or when not adequately trained to meet a particular challenge. Similarly, we wish to distinguish what we are calling bad thinking from being unintelligent. Unintelligent people, who simply cannot figure out what to do or how to do it, no less than ignorant or unprepared people, might choose actions that end up doing more harm than good. But, like the ignorant or unprepared, unintelligent people might be blameless for their witless deeds. Few people, if any, are unintelligent by choice, and so blaming them for ill-conceived actions is often inappropriate.

On the other hand, bad thinking, as we understand it, is a character flaw deserving of blame. Unlike ignorance or lack of intelligence—and bear in mind that even very smart, capable, and highly educated people can think badly—it is generally avoidable. People who think badly do not *have to* think badly. They may be—or, at least, *should* be—perfectly aware that they are forming and holding beliefs irrationally and irresponsibly, and even doing so willfully. But they typically refuse to take the steps that would cure them of their condition. Some philosophers and psychologists have insisted that we really have very little control over what we believe, that the process of belief formation is not some voluntary process under the control of the will. Perhaps this is true for some of our beliefs, but it seems obviously *not* true for a good number of them, many of which are of great consequence for how we lead our lives and how we

treat others. Bad thinking is a bad habit, and there is a remedy for it.

This book is directed at illuminating the various dimensions of bad thinking so that it might be more easily recognized and treated. As we show, the most potent antidote to bad thinking is the wisdom and insights, as well as the practical skills—yes, *practical* skills!—provided by philosophy and its history.

Bad Thinking as Stubbornness

Bad thinking is a kind of stubbornness, one that reveals itself in several ways. The first kind of stubbornness, exhibited by those who deny climate change, the theory of evolution, or the benefits of vaccination, is *epistemic*. You are epistemically stubborn when you fail to tailor your beliefs to evidence. Epistemic stubbornness is manifest anytime you refuse to change your belief even in the face of overwhelming evidence that it is false. The Americans whom surveys identify as holding untenable, even absurd, beliefs are engaged in this form of bad thinking. They obstinately retain beliefs that are not only unjustified by any reasonable standard, but that a fair inspection of available evidence reveals to be conspicuously wrong. With bad thinking, people believe what they want to believe no matter the rationality of the belief. There may indeed be reasons that explain why they hold onto to these false beliefs—perhaps the beliefs are comforting to them, or maybe the beliefs offer economic or personal benefits, or people they admire hold the beliefs in question—but these are not epistemic reasons that justify the belief, that count as evidence for the truth of the belief.

The other kind of stubbornness that is a part of bad thinking—and this brings us to the moral dimensions of the problem—shows itself in the exercise of poor judgment. Where the

epistemically stubborn person holds on to a belief regardless of compelling reasons against it, the *normatively* stubborn person insists on following a rule no matter how obviously wrong-headed doing so is in present circumstances. Normatively stubborn people fail to recognize when an exception to the rule is not only perfectly harmless but even leads to some good or the prevention of something bad.

People who engage in bad thinking are stubborn. They are epistemically stubborn when they hold on to beliefs in the face of overwhelming evidence that the beliefs are false and when they refuse to endorse beliefs in the face of overwhelming evidence that they are true. They are ethically or normatively stubborn when they insist on following rules irrespective of the intent that motivated creation of the rule in the first place or the benign or beneficial consequences of allowing an exception. Moreover, insofar as stubbornness is willful—under your control—bad thinking is blameworthy in a way that being ignorant or unintelligent is often not. Bad thinking is always avoidable.

Treating Stubbornness

But how can an epistemically stubborn person come to see that his beliefs should be abandoned? How can the normatively stubborn rule-follower acquire powers of reasonable judgment? An important first step toward eliminating the stubbornness that marks bad thinking is an appreciation for the logical principles that guide philosophical and scientific thought and the norms that make for rational thinking. The cure for bad thinking is, naturally, learning how to think well. And thinking well involves knowing and following the canonical standards of rationality that lead to the responsible formation and defense of

beliefs. In other words, it means both knowing how to know, as well as putting that knowledge about knowing into practice.

There is, in fact, an ancient name for this antidote to epistemic and normative stubbornness: wisdom. As Socrates, Sophocles, Plato, Aristotle, and a host of other thinkers and writers understood it, wisdom is a kind of self-knowledge. The wise person knows what she knows and, just as important, what she does not know. Moreover, the wise person takes care to ensure that her choices and actions are informed and guided by this self-knowledge. Fully aware of the extent and limitations of her knowledge, she thereby also knows what to do and what not to do. In short, the wise person is reasonable in thought and in action. As a result, the life she leads—what Socrates called an “examined life”—will be the best kind of life for a human being. It will consist in a kind of human flourishing. The ancient Greeks had a term for this as well: *eudaimonia*, inaccurately but not unreasonably often translated as “happiness.”

Rational Enlightenment

In approaching the problem of epistemic stubbornness, it pays to remember that we are, for better and for worse, heir to the intellectual legacy of early modern Europe. What characterizes philosophy and science in this period and marks a break from earlier traditions is the concern to tailor theories to evidence rather than authority or tradition. Galileo Galilei, Francis Bacon, René Descartes, Baruch Spinoza, John Locke, Isaac Newton, and others formulated explanations of the heavens, of the natural world around them, and of human nature and society not by appealing to the proclamations of earlier thinkers (such as Plato and Aristotle). Nor were religious principles and ecclesiastic dogma their guiding lights. Rather, they took their

lead from reason—what some thinkers called “the light of nature”—and experience. Whether they proceeded according to the logic of deduction or through the analysis of empirical data, the modern scientific method they developed consists in testing theories according to the strictures of reason and in light of the available evidence. A rational person seeks justification when evaluating the truth of his beliefs; he does not accept a belief as true merely on faith or because he really wants or needs the belief to be true; and when the evidence falsifies his beliefs, he abandons them. It is irrational—*just bad thinking*—to hold on to beliefs when they are plainly contradicted by the evidence or to reject beliefs when they are sufficiently justified.

These early modern thinkers were not irreligious men; many of them were deeply pious believers, devoted to the Catholic Church or one of the Protestant faiths. The alleged “war” in the early Enlightenment between science and religion is a myth. But for Descartes and his intellectual colleagues, philosophical, scientific, even moral and political truth and progress were a matter of rational and empirical inquiry, not fealty to authority, religious or otherwise.

People who reject climate change or who decline to vaccinate their children or who deny evolution by natural selection are not thinking well because in the face of relevant information they have refused to adjust or abandon their beliefs accordingly. Their commitments rest not on the “clear and distinct” evidence upon which Descartes and other early modern thinkers insisted but on prejudice, hearsay, and, of course, those unruly passions of hope and fear. Commenting on a recent trend, an article in the *New York Times* sounds the alarm against a federal administration that “has diminished the role of science in federal policymaking while halting or disrupting research projects nationwide, marking a transformation of the federal government

likely false. We need, in fact, more lessons on what it means to be rational and how to be epistemically responsible citizens—citizens who care about truth, who can tell the difference between good and bad evidence, and who know an unjustified (and even unjustifiable) belief when they see one.

The basic rules of logic can go a long way in curing us of bad thinking. We can also look to more general rules that define rationality in order to understand errors that, once appreciated, can be easily avoided. Part of the therapy for bad thinking provided by philosophy is the practice in distinguishing good arguments from bad and in understanding how evidence supports or falsifies a principle or hypothesis. The goal is not to have anything but true beliefs—it is not about always being right. Being reasonable does not mean being infallible. Even the most epistemically responsible people will have false beliefs. But the reasonable person's belief, even if false, will be well-grounded. There will be good reasons why she has taken that belief to be true. And the reasonable person will, in the face of firm and incontrovertible evidence that contradicts his belief, abandon the belief rather than ignore or deny the evidence.

It is thus important to review the canons of rationality as these are expressed in the rules of logic and probability and, more generally, in the basic demands of responsible belief formation. This means understanding the difference between coming to believe something rationally versus coming to believe it as a matter of faith. Beliefs resting on faith need not be religiously momentous. Even the most mundane beliefs can be based on faith—for example, you can believe that a friend is good and trustworthy because all of her behavior justifies that belief, or you can believe that she is good and trustworthy even though you have no evidence whatsoever to support that belief, and maybe even evidence that she is evil and deceitful. If you

believe that she is good without any evidence whatsoever, it is a matter of faith; if you believe that she is good despite the evidence to the contrary, then your faith is irrational.

There is too much irrationality in our country, and in the world.

Philosophy as a First Step

On May 6, 2020, the American Philosophical Society (APS) issued a rare public resolution in light of the COVID-19 pandemic. In its statement, the APS council expresses its concern that “rather than the deliberative, logical and analytical thinking that the country urgently needs, we find a disturbing skepticism toward evidence-based policy-making; a reluctance to accept and apply scientific knowledge; and a lack of familiarity with the relevant lessons of history, including long-past and more recent pandemics.” The resolution, directed at the leaders of both houses of the United States Congress, concludes with the following recommendation:

We therefore ask you to consider a bold initiative to reenergize education in this country as an essential part of the recovery from our current national emergency. This effort draws inspiration from the National Defense Education Act of 1958, a successful legislative initiative to support education in response to a clear international challenge.

WHEREAS, Factual evidence and fact-based decisions are the foundation of the nation’s strength and growth, and whereas, the promotion of education emphasizing the natural and social sciences, analytical thinking, and fact-based decision-making is essential for the nation’s welfare, it is

RESOLVED, That Congress enact a “National Defense Education Act for the 21st Century” to support at all levels the

education of American's youth in science, history, analytical thinking, and the primacy of facts as the foundation of the nation's future health, general well-being, and security.

Changing people's cognitive behavior will not be easy; it may even be a fool's errand. However, there is no reason to think that, just because old dogs have difficulty learning new tricks, people, too, once entrenched in bad ways of thinking, cannot come around to seeing the error in their ways. Perhaps it must fall to psychologists to investigate the best ways to incentivize good thinking among a population of bad thinkers. But it is the job of philosophers to identify which modes of thinking are good and why. This is why philosophy is fundamental to good thinking. If we are to cure America, and the world at-large, of the baseless and harmful ideas that have infected a frighteningly large portion of the population, it is to philosophy that we—as individuals and as a society—must first turn.

Chapter 1

Thinking, Bad and Good

In 2013, Fairleigh Dickinson University's PublicMind poll revealed that 25 percent of Americans believed that the Sandy Hook school shooting, which had occurred the year before, involved a cover-up of some sort. This skepticism—or, perhaps more accurately, cynicism—appears impervious to overwhelming evidence that, in fact, Adam Lanza murdered his mother before driving to Sandy Hook Elementary School, where he methodically killed six staff members and twenty children. The available evidence concerning Lanza's actions, including photographs of carnage, autopsy reports, witness testimonials, interviews with acquaintances of Lanza, disturbing material found on Lanza's computer documenting other mass shootings, and so on, should leave no doubt in a rationally functioning individual that the shooting did, without question, occur. Apparently, a large proportion of Americans are not functioning rationally.

Five years following the PublicMind poll, the online news source Patch published an article titled "How Dumb Is America: 10 Things People Actually Believe." Here are some of the actual beliefs that, according to Patch, suggest that America is, after all, pretty "dumb." Nearly one-third of Americans deny the

historically established fact that approximately six million Jews were killed in the Holocaust, and instead insist on a far lower number. A still greater number of Americans do not even know that Auschwitz was a concentration camp. Seventy-four percent of Americans are unable to name all three branches of their own government, and an astounding one-third of Americans could not identify even a single branch of the government. A quarter of Americans believe that the sun orbits the earth. Over a third of Americans believe that human beings, rather than evolving through natural selection, were created by God in their present form, and not very long ago. While the number of Americans who accept the fact of climate change has been increasing, 20 percent of them still deny climate change, and an even larger percentage deny that human activity has anything to do with it. About a third of Americans continue to believe that President Obama was born in Kenya, and about a fifth are skeptical about the safety of vaccines, despite very large studies that show the incidence of afflictions like autism to be no higher in vaccinated populations than unvaccinated ones.

We prefer to resist the Patch article's description of Americans as "dumb." In our view, it is not the right word to describe America, or, more specifically, a discouragingly high proportion of Americans. Nor, to take a more global perspective, does it describe those around the world who similarly hold beliefs that fly in the face of overwhelming counter-evidence. However, we do agree with the general sentiment the article expresses. America's future—and the future of the world—is jeopardized by people who should know better. Not every false belief will have bad consequences—not much harm can come from believing that the earth is flat, unless, perhaps, you work for NASA—but many will. Climate change is real, and the longer people drag their feet responding to it, the more damage it will do. Similarly,

Stubbornness, Epistemically Speaking

Epistemology is the branch of philosophy that focuses on questions about justification and knowledge (*episteme* is the Greek word for “knowledge”). In characterizing someone as “epistemically stubborn,” we are highlighting a particular sort of bad thinking. Stubbornness, we all know, involves a sort of resistance or defiance in the face of reason. The stubborn toddler refuses to give up her lollipop despite having dropped it on the beach. A person is epistemically stubborn when he refuses to give up his belief when readily available and easily acquired evidence—perhaps even right in front of his nose—reveals that belief to be false. Alternatively, he does accept the evidence but fails to draw from it the rational conclusion he should. Being epistemically stubborn is quite different from being poorly educated (and, for that matter, being dumb). A poorly educated or ignorant person may not know that Barack Obama is an American citizen just because she never saw any evidence one way or another about Obama’s place of birth. An epistemically stubborn person, on the other hand, continues to deny that Obama is an American citizen despite seeing a copy of his birth certificate and hearing testimony that confirms his birth in Hawaii. Similarly, plain old ignorance might explain why someone has no understanding of evolutionary theory. But the creationist is typically deficient in another way. He is familiar with the evidence for evolution but either denies its relevance or refuses to accept what it entails. He is epistemically stubborn.

The instances of epistemic stubbornness that we have cited might seem correlated with particular segments of society—indeed, members of the Republican party are far more likely to be “birthers” than Democrats, and members of conservative religious groups are more likely to deny evolution than members

of more progressive religious groups. However, epistemic stubbornness is not limited to populations who display profoundly partisan political views or sectarian religious convictions. Everyone is vulnerable to epistemic stubbornness at some time or another and with respect to at least some of their beliefs. Many sports fans continue to believe, well into a losing season, that their team can “go all the way.” We have all met people whom we want to think have our best interests at heart despite a wealth of evidence to the contrary. Charlie Brown never lost hope that Lucy would keep the football in place for his kick. Epistemic stubbornness is without question pervasive. In some cases, as we will see, it might even be beneficial and desirable.

Yet, despite being common, and in many cases harmless, epistemic stubbornness can be dangerous, as is the case with climate change denial and vaccine skepticism. Other consequent evils of epistemic stubbornness might be less direct but just as insidious. Believing that a conspicuously flawed political candidate obviously unprepared and unfit for office can be an effective leader might lead a country down the wrong track or keep it from taking the right one. Buying into conspiracy theories involving the US government’s involvement in the tragedy of 9/11 can hinder investigation into the real culprits and derail foreign policy that might prevent future terrorist attacks. When people give credence to the painful idea that prominent school shootings like Sandy Hook are fabrications—invented for the purpose of eroding gun-ownership rights—reasoned debate on important issues like gun control becomes ever more difficult.

The nineteenth-century mathematician and philosopher W. K. Clifford (1845–79) warned of an even more dire threat emerging from epistemic stubbornness. He worried that people who allow themselves to believe without sufficient justification are on a slippery slope. “Every time we let ourselves believe for

unworthy reasons,” he cautions, “we weaken our powers of self-control, of doubting, of judicially and fairly weighing evidence.”¹ Epistemic stubbornness, the tendency to hold on to poorly justified beliefs, is, Clifford thinks, like a voracious contagion. It can take possession of a person, reducing her powers of discernment and making her “credulous”—in the sense that she will be prepared to believe almost anything, no matter how groundless. Her epistemic stubbornness can then spread to others, like a bad apple that spoils the barrel. “The danger to society,” Clifford says, “is not merely that it should believe wrong things, though that is great enough; but that it should become credulous, and lose the habit of testing things and inquiring into them; for then it must sink back into savagery.”² Perhaps the fear that an epistemically stubborn society will plummet into savagery is a bit over-the-top. But surely it is correct that a society that places no higher value on justified beliefs than it does on baseless ones is a dangerous place to live. We depend on society to protect us from enemies, to provide us with an education, to furnish us with adequate health care, to keep our environment clean, to ensure that the medicines we take and the food we eat and the houses and buildings in which we live and work are safe, and so much more. The last thing we want is for these essential operations to rest on unwarranted beliefs. And this is why understanding concepts like evidence, justification, and knowledge is important—it can help fight the spread of epistemic stubbornness.

Where Is the Evidence?

One very popular view in epistemology is called ‘evidentialism,’ and it tells us that people should believe something—that it will rain tomorrow, that the Pacific Ocean is larger than the Atlantic

Ocean, that Abraham Lincoln was president during the Civil War, that the atomic number of gold is seventy-nine—only when they have enough evidence to justify the belief. In other words, according to evidentialism, we ought *not* to believe something for which we lack sufficient evidence.

The historical roots of evidentialism can be traced back to the philosopher René Descartes (1596–1660). In his *Meditations on First Philosophy* (1641), Descartes set out to establish proper epistemological and metaphysical foundations for natural science. He was determined to discover a reliable method for arriving at absolutely certain truths about the cosmos. His first step toward this end was, ironically, an effort to doubt everything he believed. Yet skepticism—the view that knowledge is impossible—was not Descartes’s goal. Rather, Descartes aimed to discover which of his beliefs could survive even the most powerful reasons to doubt. Among the reasons to doubt that Descartes considered was the possibility of an evil demon with God-like powers whose mission was to deceive him. Granting the existence of such a being, a forerunner to more contemporary skeptical scenarios such as the one appearing in *The Matrix* films, could Descartes trust any of his beliefs? Is the sun the center of the solar system? Is there even a sun? Does Descartes have a body, or is the demon making him believe that he does when in fact he does not? Does a square have four sides?

In imagining a reason to doubt everything, Descartes searches for and, he thinks, finds a reliable way to avoid false beliefs and enter the path to true knowledge. The key is to give “assent” only to what we “clearly and distinctly perceive to be true.” That is, you ought not to believe something unless the evidence in favor of the belief is so overwhelming that it is practically impossible *not* to believe it. We should commit ourselves only to those things for which the evidence is so logically conclusive

that we cannot resist believing them. At one point in the course of his epistemological progress, Descartes finds himself in the presence of certain ideas—he cites the thoughts “I am, I exist” and “God exists”—that were so compelling that “I could not but judge that something which I understood so clearly was true. This was not because I was compelled so to judge by any external force, but because a great light in the intellect was followed by a great inclination in the will, and thus the spontaneity and freedom of my belief was all the greater in proportion to my lack of indifference.”³ On the other hand, in the absence of such persuasive evidence—“in every case where the intellect does not have sufficiently clear knowledge”—we should withhold our assent. “If I simply refrain from making a judgment in cases where I do not perceive the truth with sufficient clarity and distinctness, then it is clear that I am behaving correctly and avoiding error.”⁴

Clifford’s version of evidentialism is equally strict. He sums up his position like this: “It is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence.”⁵

Evidentialism, as we understand it, stands in direct opposition to the kind of bad thinking we are describing as epistemic stubbornness. The epistemically stubborn person essentially says, for example, “I will continue to believe that vaccinations are harmful despite the good evidence to the contrary,” or “I still believe that the Sandy Hook school shooting was a hoax despite a mountain of evidence that the event actually occurred.” An evidentialist views such an individual as violating a norm of some sort. Because the available evidence justifies the belief that vaccinations are not harmful, the antivaccination promoter has committed a kind of wrong. She has adopted a belief for which there is insufficient evidence; worse, she has adopted a belief for which there is compelling counter-evidence.

his ship finds its way across the ocean without incident than if it ends up in at the bottom of the sea.

But there are different kinds of wrongs, and it would be good to know in what sense the shipowner is wrong when his belief rests on insufficient evidence. The most ordinary sort of wrong is associated with a *moral* infraction. If, instead of keeping your promise to pick up your friend at the airport, you instead sit at home watching reruns of your favorite sitcom, you have committed a moral wrong because you have broken a moral rule. Morality dictates that you keep your promises (unless, perhaps, some more important or urgent obligation presents itself). So, when you violate this moral rule, you behave immorally. You are, in short, morally wrong.

In contrast to a moral wrong, we can speak of an *epistemic* wrong. Suppose you believe that the zoo is open unless the workers are on strike, and you also believe that the workers are *not* on strike. If we then ask you whether you believe that the zoo is open, and you say “no” or “I don’t know,” you have committed an epistemic wrong. The first two beliefs justify the third. If you believe that the zoo is open unless the workers are on strike, *and* you believe that the workers are not on strike, then you ought to believe that the zoo is open. But this sense of ‘ought’ is not like the one that applies to the case of keeping your promise. When you ought to keep your promise and you do not, you have done something that, morally, you should not have done. When you ought to believe that the zoo is open but do not, you have failed to do something that, *epistemically*, you ought to have done. You have violated an epistemic norm, a norm of good reasoning.

Or, to consider another case, suppose your partner starts to receive text messages late at night and quickly hides the phone or leaves the bedroom when responding to them. He leaves the

house often, saying that the dog needs a walk, despite the fact that the dog was sleeping soundly. Hidden beneath his side of the mattress, you find two tickets for a Caribbean cruise, the dates of which correspond to your annual work retreat. One of the tickets has been issued to your partner's business associate, with whom you have seen him flirting at various work functions. As the evidence of your partner's infidelity mounts, so does the justification for believing that he is cheating on you. Obviously, you do nothing *immoral* in refusing to believe the evidence, in sticking to the increasingly unlikely belief in your partner's innocence, but you do, as in the case above, break an epistemic norm. The evidence of your partner's infidelity is overwhelming. If you refuse to accept the belief that the evidence justifies, you are not believing what you ought, epistemically, to believe.

The two examples of epistemic wrongs we have just considered—not believing that the zoo is open and not believing that your partner has been unfaithful—differ in important ways. More specifically, the *manner* in which the reasoning in each case justifies a particular belief differs. We will see why in later chapters. For now, let us return to the discussion of the shipowner, because it suggests a connection between the two kinds of wrong that we just distinguished, that is, moral wrongs and epistemic wrongs.

Not every instance of epistemic stubbornness involves a moral transgression. You have done nothing immoral when you fail to see that the zoo is open. Nor, on the face of it, does your refusal to believe, despite all the evidence, that your partner is cheating on you make you a bad person. But the shipowner is a bad person. This is obvious in the first situation, when the shipowner willfully neglects the evidence that his ship is unsafe and sends its passengers to a watery grave. But matters are hardly

less clear in the second situation, in which only luck spares the passengers from tragic misfortune. The ship is no safer in the second case, and the evidence for its decrepit condition just as compelling. The shipowner has acted immorally because he has put his passengers at grave risk when he should have known better.

In both cases—when the passengers drown, and when, by luck, they enjoy safe passage—the shipowner’s morally wrong behavior is intertwined with his epistemically wrong behavior. His bad thinking prevents him from seeing the danger into which he is placing his passengers’ lives. He convinces himself that the ship is seaworthy simply because his profits depend on doing so. Sometimes, as in this case, epistemic stubbornness acquires moral significance because failure to believe what you ought epistemically to believe results in actions that you ought morally to avoid.

To this point, we should add that although the shipowner has all the evidence in hand to justify the correct belief, that his ship is not seaworthy, he would be hardly less guilty if instead of having this evidence handed to him by shipwrights, he had to go to some effort to collect the facts. Given the serious stakes of an ocean voyage—the lives of many passengers—the shipowner has a moral duty to inform himself of the ship’s true condition. Morally, the shipowner ought to do everything he can to assure himself that his belief in the ship’s seaworthiness is justified. If he had done this, he would have realized that his belief was mistaken. Of course, he may well still have chosen to risk the lives of the passengers, but this would no longer be an instance of epistemic stubbornness. After all, he has now allowed the evidence to do its work—he allowed it to persuade him that his ship was unsafe. His crime, should he ignore the belief, would not be epistemic stubbornness but something

more like negligence; he did know better, but acted with indifference to this knowledge.

The point of all of this is to make more explicit why the epistemic stubbornness that so many Americans display can also be morally wrong. Consider again two of our paradigm examples of this kind of wrongness: refusing to believe in global warming and refusing to believe that vaccines are safe. In each case, lives are at stake. Just as the shipowner should not ignore the evidence of his ship's dilapidation, and should, in fact, make every effort to seek evidence that justifies the correct belief about the ship's condition, so too should Americans work to educate themselves about climate change and vaccinations. The antivaccination campaigner, for instance, has a moral duty to acquire evidence for the correct belief about vaccines and to abandon the unjustified beliefs that lead to dangerous decisions. Children are dying because of the unjustified beliefs that are guiding the choices of those opposed to vaccination. Just as the shipowner's epistemic stubbornness leads to the immoral decision to send passengers on a perilous journey, so the epistemic stubbornness of the person opposed to vaccination leads to the immoral decision to needlessly risk the lives of children.

Of course, many participants in the antivaccination movement do believe that their decisions *are* justified, that they *are* evidence-based. You can imagine that the shipowner might also come to believe that his opinion of the ship's seaworthiness is justified. Perhaps he speaks to some passengers who had traveled safely on the ship years before and they assure him of its soundness. This reveals something important about the nature of evidence. As we will see, though, not all evidence is created equal. Or, put another way, some reasons to believe are not good reasons. Likewise, some evidence is persuasive only if other evidence is ignored.