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Introduction

Our Epistemological Crisis

Something is seriously wrong. An alarming number of citizens, in America and around the world, are embracing crazy, even dangerous ideas. They believe that vaccinations cause autism. They reject the scientific consensus on climate change as a "hoax." They think that hordes of criminals ("murderers and rapists," in the words of some politicians) are invading the United States through its southern borders. They blame the emerging 5G network for the spread of COVID-19. A growing movement of conspiracy theorists under the banner of "QAnon" espouses the idea that prominent politicians and movie stars are involved in a cannibalistic pedophile ring. Meanwhile, so-called Birthers continue to insist that the presidency of Barack Obama was illegitimate because he was not a "natural born citizen" of the United States. At the same time, a shockingly high percentage of American citizens continue to believe that Donald Trump really won the 2020 presidential election.

There is nothing to substantiate these beliefs, and easily available evidence shows that they are actually false. And yet, people—often educated, smart, and influential people—continue to believe them. The *New York Times* columnist and Nobel Prize–winning economist Paul Krugman has called them

"zombie ideas": they continue to circulate despite being "dead," disproven, and refuted.[1] Even more troubling, the people who believe these things advocate for public policies that reflect their madness and vote for politicians who (whether they share those beliefs or not) promise to enact them. Especially remarkable is how these people come to hold beliefs and defend corresponding policies that, in fact, are contrary to their own best interests.

These are instances of "bad thinking." Examples can be multiplied and internationalized. Elections, referenda, policies, and movements, not to mention actions both innocent and criminal, in numerous countries around the world, testify to an epidemic of bad thinking. Our focus, however, will be on the country we know best and the citizens among whom we live and work.

In this book we explain why bad thinking happens to good people. We consider why so many people can go so wrong in their beliefs and, consequently, in their actions. The way they come to form and defend these opinions is wrong, and their failure to appreciate the moral consequences of acting on them is wrong. The philosophical subjects of *epistemology*, which addresses how beliefs become justified and how knowledge differs from mere belief, and *ethics*, the study of the moral principles that ought to govern our behavior, can help us understand the difficult and perilous situation in which we now find ourselves. We also suggest a way forward, away from all this madness, through the tools of philosophy—its questions, its methods, and even its millennia-old history of recommendations for how to lead a good, rational, and "examined" life.

A simple, if somewhat brutal, diagnosis of the current state of affairs in America is this: a significant proportion of the population are not thinking reasonably and responsibly.[2] The real problem is not that they lack knowledge, education, skill, or

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 wrongheaded 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

whose effects, experts say, could reverberate for years. Political appointees have shut down government studies, reduced the influence of scientists over regulatory decisions and in some cases pressured researchers not to speak publicly."[3] The writers fail to note how much that aversion to scientific reasoning is deeply ingrained in American society generally and informs the decisions people make in their daily lives.

The philosophers of the early Enlightenment proposed, both in their codification of the scientific method and in their campaign against varieties of irrationality and groundless "enthusiasms," a systematic way of forming beliefs strictly on the basis of relevant evidence. Whether it is a matter of Bacon's inductive reasoning, Descartes's methods of "intuition" and "deduction," Newton's restraint in the face of speculative "metaphysical" hypotheses, or even David Hume's skepticism about our most ordinary but (it turns out) unjustifiable beliefs, all of these thinkers shared a commitment to a certain model of human rationality and epistemic responsibility.

This is not something that emerged all of a sudden in the seventeenth century. Plato was the first to investigate in a philosophically rigorous way the nature of "true knowledge" and the demands that we as responsible knowers are obliged to meet. And he was inspired to do so by his famous teacher. After all, it was Socrates who, with his well-known insistence that "the unexamined life is not worth living," urged upon us the obligation constantly to be asking ourselves not just why we act as we do, but why we believe what we believe. You think you know the meaning of justice? You have certain beliefs about the nature of right and wrong? The examined life demands not only that we reflect on our actions in light of our beliefs and values but that we put those beliefs and values themselves to the test.

Just as the insights of the Enlightenment trace back to a more ancient tradition, they also extend forward to contemporary work in philosophy. Philosophers who today investigate epistemology and science, no less than their early modern forebears, focus on questions concerning how evidence supports belief. They want to know how particular observations lend support to general claims about the world, and more generally how human knowledge works. In addition to the deductive and inductive tools first developed by earlier thinkers, contemporary philosophers incorporate as well the devices of probability theory. This provides them with new, more sophisticated means for understanding how well confirmed a belief may be, given some piece of evidence, and how, with additional evidence, the truth of a belief can become incrementally more probable. An understanding of these tools and methods can help even nonphilosophers spot spurious, invalid, or misleading arguments and unjustified conclusions, and can strengthen their thinking overall.

How to Think

What is the solution to our creeping epidemic of bad thinking? Arguably, the most promising response will involve a deeper engagement with philosophy: both its history and its methods. Take, for example, the field of epistemology. Learning how to gain more information from a broad variety of sources is an important first step. But we can all benefit even more from lessons in rationality. This means learning how to assess those sources of information—distinguishing between the real and the fake (that is, the *truly* fake)—and thereby acquiring the tools for determining which beliefs are likely true and which are

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 re-energize 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.

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