"A hugely valuable and necessary book, an illuminating exploration of the flight from fact." — JON MEACHAM

The Constitution of Knowledge

A DEFENSE OF TRUTH

Jonathan Rauch

THE BROOKINGS INSTITUTION
1775 Massachusetts Avenue, N.W.
Washington, D.C. 20036
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Library of Congress Control Number: 2021936756

ISBN 9780815738862 (hc)
ISBN 9780815738879 (ebook)

9 8 7 6 5 4 3 2 1

Typeset in Sabon Pro

Composition by Elliott Beard

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"A Terrible Statement Unless He Gets Away with It"

Chaos and conformity have caused an epistemic crisis

In the public square of Athens, a homely, snub-nosed, bulgy-eyed old man encounters a homely, snub-nosed, bulgy-eyed young man. Hailing the young man and remarking on their resemblance, Socrates begins a conversation with Theaetetus and sets out to determine whether they also resemble each other in their love of philosophy. Theaetetus protests that he is no great intellect; philosophical puzzles make him quite dizzy, "wondering whatever they can mean." Ah! Then you *are* a philosopher: "This sense of wonder is the mark of the philosopher," insists Socrates. "Philosophy indeed has no other origin."

With that, in a conversation imagined by Plato 2,400 or so years ago, the old man commences to lead his new friend on an expedition into the densest thickets of epistemology. What is knowledge? What is error? How does error arise? Why is error even possible? Each question would seem to have an obvious answer, yet each obvious answer collapses upon examination.

Perhaps knowledge is correct perception of the world? But perception varies between individuals; it varies, too, *within* individuals. A wine which tastes sweet when I am well may taste bitter the next day, when I am ill. There are dreams and hallucinations, all imaginary yet seeming real. Each of us is a parade of changing perceptions, but our shifting personal palimpsest can never be the same as knowledge, as reality.

Well, then, perhaps knowledge is *true* judgment, true belief? But we may hold random or ignorant views which merely happen to be true; we may guess or conjecture and be proven right through pure luck; yet lucky guesses are surely not the same as knowledge. Our own confidence in our beliefs is no good, for we may feel sure but be in error.

Perhaps, then, knowledge is true belief or true judgment plus an account, an explanation. That seems more like it. But no, Socrates spins us around again. How can we judge the truth of the account without also knowing the truth of the subject of the account? If the account is based on a distinction, for example, and if the distinction is comprehensible and persuasive, then we must already have knowledge of the thing we are explaining: otherwise the distinction would not enlighten us. Relying on an account traps us in circularity: we cannot have knowledge without an account, but we cannot have an account without knowledge.

"So, Theaetetus," says Socrates to the younger version of himself, "neither perception, nor true belief, nor the addition of an 'account' to true belief can be knowledge." Replies the young man, presumably confirmed in his belief that philosophy is dizzying, "Apparently not." And here the conversation ends abruptly in defeat, leavened only by Socrates's assurance that at least the two of them are clearer on what it is they do *not* know, and therefore will be humbler and more agreeable to their companions.

So much ratiocination, so much spadework, leading nowhere? Perhaps. And surely disappointing. "But tomorrow morning," says Socrates, "let us meet here again."[1] The conversation will continue. Not, tragically, for Socrates; he would soon be executed for impiety. But the conversation outlived him and continues to this day. At age eighteen, as a college freshman, I encountered *Theaetetus* with a jolt. I

sensed that it asked an important question, yet it provided no answer. Instead, it was an exercise in relentless deconstruction, in gentle but ruthless analytical demolition. Plato's message came through in bold relief: this business about truth, about distinguishing reality from error—it is not easy, and if you think otherwise, go away!

And yet, as Plato instructs us, our analytical ruthlessness is not nihilism or a waste of time. It teaches rigor and humility, the foundations of the truth-seeking attitude. If Socrates could not on this occasion define or explain knowledge, he could nonetheless demonstrate its spirit. The most important words of the dialogue are those five words at the end. *Let us meet here again*: acquiring knowledge is a conversation, not a destination. It is a process, a journey—a journey we take together, not alone. Others are always involved. Knowledge is not just something I have; more fundamentally, it is something *we* have.

Here, implicitly at least, Plato anticipates the richest and most advanced insights of today's philosophy of science. Yet, in his grand political treatise, *The Republic*, Plato would take a very different view of knowledge than the one Socrates implies: the ideal regime invests an authoritative leader with the power to distinguish truth from falsehood. That governing model, whenever implemented, proved to be a wrong turn, one which contributed to centuries of human grief. Today, we can say that it was *Theaetetus* which pointed the way forward, even if more than two millennia would pass before the path it blazed was rediscovered.

In my own way, as a young man, I set out on Theaetetus's journey. After college I became a journalist and, as such, dedicated myself to finding out what is true and to telling stories which enlighten and instruct. Good journalism, like philosophy, and like science, begins with curiosity, with wonder. Then come the hypothesis, the thesis, the seemingly plausible account. Then come the efforts to test that account against the world, by asking still more questions; and then, often, comes the moment when the hypothesis lists or collapses and my head, like Theaetetus's, spins. And then, if I am lucky, out of the dizziness comes a stronger hypothesis, something closer to truth; or, if I am not as lucky, out of the dizziness comes a reminder to be humble in the face of reality's caprice.

However, my personal struggles to find the right questions and assemble mosaic tiles of information to tell the tale coherently—while necessary for journalism—are not in fact journalism. A crackpot, a loner, a conspiracy theorist will engage in the same steps, yet is not a journalist. I became a journalist by being forced outside of myself. From my very first steps into the world of journalism, first on my college newspaper, then as a summer intern at *National Journal* magazine in Washington, D.C., and then in the newsroom as a cub reporter for the *Winston-Salem Journal*, I was thrust into contact with the world outside my own head. Apart from the lonely process of writing a first draft, I could do nothing on my own. Facts were gathered from interviews and sources; analysis was checked with experts; every sentence was edited, copy-edited, and often fact-checked; tipsters suggested story ideas, sources waved me off bad leads, and challenges to my claims percolated in conversations within the newsroom and outside of it. The sense of having joined something much greater than myself, and of swearing allegiance to the exacting standards of a great tradition, made the enterprise of journalism appealing and compelling to me even on the days when the practice of journalism seemed grinding and routine (which was often).

There were some things, I learned, that we—*we*, as professionals—do: prize accuracy; seek a comment from a person before publishing something about her; prefer on-record information; consult multiple sources with varied viewpoints; abjure jargon, longwindedness, extravagance, and opinion (except in sports writing, which seemed to require all of the above). There were other things, I learned, that we do not do: pay for information, accept gifts from sources, betray confidentiality, tolerate meddling from the ad department. As a young journalist, I was being rebuilt, reshaped, into a worker ant in humanity's hive-mind, humans' most important and beneficent creation. Without realizing it at the time, I was being inducted into a community, the reality-based community—the same community into which Socrates was inducting Theaetetus so long ago. I was learning the Constitution of Knowledge.

An Epistemic Crisis

When Americans think about how we find truth amid a world full of discordant viewpoints, we usually turn to a metaphor, that of the marketplace of ideas. It is a good metaphor as far as it goes, yet woefully incomplete. It conjures up an image of ideas being traded by individuals in a kind of flea market, or an image of disembodied ideas clashing and competing in some ethereal realm of their own. But ideas in the marketplace do not talk directly to each other, and for the most part neither do individuals. Rather, our conversations are mediated through institutions like journals and newspapers and social-media platforms; and they rely on a dense network of norms and rules, like truthfulness and fact-checking; and they depend on the expertise of professionals, like peer reviewers and editors—and the entire system rests on a foundation of values: a shared understanding that there are right and wrong ways to make knowledge. Those values and rules and institutions do for knowledge what the U.S. Constitution does for politics: they create a governing structure, forcing social contestation onto peaceful and productive pathways. And so I call them, collectively, the Constitution of Knowledge.

The world I was trained for seems, in hindsight, a long way off, in some respects more unfamiliar than Socrates's Athens. In science, in journalism, in politics, and in daily life, truthfulness is for the most part a civic norm, not a legal requirement, and the twenty-first century put it under severe pressure. Most shockingly, a president of the United States gleefully shattered every known record for lying. One might be tempted to write off all politicians as liars, but no prominent figure in American politics had lied nearly as brazenly, wantonly, and prolifically.

Even more telling, perhaps, than his contemptuous attitude toward facts was his contemptuous attitude toward corrections. In 1690, the first newspaper in North America went to press. Called *Publick Occurrences*, it was soon stamped out by censorious authorities. Still, it made an impression, partly by declaring its mission on its front page:

> That something may be done towards the Curing, or at least the Charming of that Spirit of Lying, which prevails amongst us, where-

> fore nothing shall be entered, but what we have reason to believe is true, repairing to the best fountains for our Information. And when there appears any material mistake in anything that is collected, it shall be corrected . . .[2]

The idea of accountability to truth, and thus of a responsibility to correct the record, was a threshold idea in the establishment of mainstream journalism, and it remains foundational today. In 2017 several leading journalists at CNN reported that a confidant of President Trump was linked to a dicey Russian hedge fund. The story turned out to be wrong. CNN retracted it, apologized for it, and forced out the journalists responsible for it after determining that they had breached CNN's standards. One response would have been to tweet out some statement like: "Kudos to CNN for caring enough about truth to correct its story and clean house. That's Real News!" What the president tweeted out, however, was this: "Wow, CNN had to retract big story on 'Russia,' with 3 employees forced to resign. What about all the other phony stories they do? FAKE NEWS!" And this: "So they caught Fake News CNN cold, but what about NBC, CBS & ABC? What about the failing @nytimes & @washingtonpost? They are all Fake News!" In the president's worldview, by holding itself to account, the network had proved not its integrity but its corruption—and, indeed, the corruption of the entire news industry.

In much the same spirit, in 2018 the president and the Republican National Committee touted something they called the "Fake News Awards." What the president and the committee did not note was that of the eleven supposedly fake news items, at least seven had been promptly corrected by the outlets which had published them. In other words, the president and the committee knew the reports were false because the outlets had said so. Two of the faulty reports, according to the *Washington Post*, had prompted suspensions or resignations (the CNN report was one of them). Two were merely tweets, also corrected. Another was an opinion piece. Apparently, scouring the mainstream media for fake news, the president and his political team could find nothing worse. (Perhaps they lacked time to glance at the acres of inaccuracies rolled out by conspiratorial right-wing outlets.)

In any case, the moral they drew was the same: correcting error is a sign not of integrity but of crookedness.

The president's behavior may have been compulsive, delusional, or pathological, to one extent or another. But it could not have been anything other than intentional. In 2013 someone using the handle @backupwraith tweeted: "I firmly believe that @realDonaldTrump is the most superior troll on the whole of twitter." Trump quoted the tweet with the comment: "A great compliment!" In 2018 CBS News's Lesley Stahl recounted asking Trump, during his presidential campaign, whether he planned to stop attacking the press. "He said, 'You know why I do it? I do it to discredit you all and demean you all, so when you write negative stories about me no one will believe you.'" The White House did not deny Stahl's account. Why would it? Trump and his troll army had, by their lights, every reason to be proud of what they were doing.

And they did know what they were doing. We know Trump knew, because he had warned us. In 2004, in an interview with NBC News's Chris Matthews, Trump was asked to reflect on the Republican presidential convention, which had just ended. In that year's presidential race, a challenge for Republicans was that their candidate, President George W. Bush, had safely sat out the Vietnam War in the Texas Air National Guard, whereas his opponent, Senator John Kerry, had won a Silver Star, a Bronze Star, and three Purple Hearts for valor in combat. A group called Swift Boat Veterans for Truth waged a successful propaganda campaign challenging Kerry's wartime record. That was the context in which the following exchange occurred:

Trump: I sat through the convention in New York. And they did a great job, the Republicans. But maybe the greatest spin I've ever seen on anything is, it's almost coming out that Bush is a war hero and Kerry isn't. I think that could be the greatest spin I've ever seen.

Matthews: Because?

Trump: Well, the whole thing with the Swift Boat group, which obviously is being done by Bush and Bush's people, happened to be brilliant. They've taken all of that war hero thing away from Kerry and they've almost given to it Bush. And Bush, frankly, was not serving. That we know.

Matthews: . . . Let me ask you about perhaps what you might call unnecessary roughness in politics. This week, Dick Cheney, the vice president, a very tough guy, said that if we elect, the American people elect Kerry, that we're basically going to face ourselves with the threat of a devastating [terrorist] attack. He is saying vote Democrat, you're going to get attacked.

Trump: Well, it's a terrible statement unless he gets away with it.

A terrible statement unless he gets away with it. Trump was hardly the first politician to lie. Yet as president, more than a decade later, he went far beyond an ordinary political hit job like the Swift Boat campaign. In the scale and brazenness of his lying, many people sensed something different from ordinary political spin and exaggeration, something with more sinister aims and more disorienting consequences: something from the world of George Orwell's *Nineteen Eighty-Four*: "The party told you to reject the evidence of your eyes and ears. It was their final, most essential command." Trump and his media echo chambers were normalizing lying in order to obliterate the distinction, in the public realm, between truth and untruth. They were practicing the hallowed (if infamous) art of disinformation. They lied in trivial ways, when there was no point in lying except to show contempt for truth, as when Trump claimed rain had not fallen on his inauguration. They lied in grandiose and fantastic ways, as in their months-long disinformation campaign claiming to have won an election which Trump had demonstrably lost (a campaign which ended only when he was impeached for inciting a violent insurrection). They lied without distinguishing between truth and falsehood or between big lies and small lies, because their goal was to denude the public's capacity to make any distinctions at all.

Observing events, an assortment of commentators and academics thought they saw a threat to the underpinnings of the liberal order itself, and not just from Trump and his political allies but from a whole industry of trolls and foreign actors and even bots and algorithms. "In threatening to erode the forms of intellectual trust and cooperation that are required for democratic life, and in making the determination of 'truth' more and more obviously a consequence of brute power alone, our current practices threaten democracy itself,"

wrote Sophia Rosenfeld, a historian at the University of Pennsylvania, in her book *Democracy and Truth: A Short History*. In reports and books with titles like "The Misinformation Age" and "Truth Decay" and "Post-Truth" and "The Death of Truth," scholars explored aspects of what all agreed was uncharted territory, at least in the United States.[3] Politicians and pundits—everyone from senators and two former secretaries of state to leaders of the intelligence and law-enforcement communities—sounded alarms that American civic life might be losing its grip on reality: its ability, that is, to tell truth from untruth or even believe there is a difference. "We have a risk of getting to a place where we don't have shared public facts," Ben Sasse, a Republican senator, said in a 2017 interview with CNN, voicing the prevalent concern. "A republic will not work if we don't have shared facts." Michael Hayden, a former director of the Central Intelligence Agency, sent a distress signal when he wrote (in the *New York Times*): "These are truly uncharted waters for the country. We have in the past argued over the values to be applied to objective reality, or occasionally over what constituted objective reality, but never the existence or relevance of objective reality itself." The battle lines, Hayden perceived, made for some strange bedfellows. "In this post-truth world, intelligence agencies are in the bunker with some unlikely mates: journalism, academia, the courts, law enforcement, and science—all of which, like intelligence gathering, are evidence-based."

An arcane multisyllabic word began cropping up in the public discourse. "At its heart . . . the current crisis belongs primarily to the realm of *epistemology*, or how we know what we know," wrote Rosenfeld (italics added). The esoteric term, previously a staple of philosophers but little known outside the ivory tower, had found a new mainstream application. In 2020, former President Barack Obama stated the matter starkly: "If we do not have the capacity to distinguish what's true from what's false, then by definition the marketplace of ideas doesn't work. And by definition our democracy doesn't work. We are entering into an epistemological crisis."[4]

A Chill Wind

The crisis had many elements, but two seemed central to its character. One was the deployment of disinformation on an unprecedented scale by Trump, his troll armies, foreign governments, conspiracy mongers, and a conservative media ecosystem which was increasingly detached from reality-based norms. That attack came predominantly, though not exclusively, from the right. Peculiarly, it received an assist from the left, in the form of an attack on epistemic liberalism which came to be known as cancel culture.

Canceling, like trolling, was not unique to one part of the ideological spectrum; many conservatives were politically canceled for opposing Trump. Still, it was predominantly the left which had the cultural power to police speech and weaponize shaming. "Young-adult books are being targeted in intense social-media call-outs, draggings, and pile-ons—sometimes before anybody's even read them," reported *New York* magazine's Kat Rosenfield in 2017.[5] One first-time novelist withdrew her book from publication under pressure from an online mob who had not actually read it.[6] A prominent television writer told me that he and his industry were routinely censoring themselves. His creative choices, he said, were constrained by unwritten rules; for example, female characters always had to be strong and secure. "You just learn to channel your imagination along certain paths," he said. "You feel the pressure. Everybody's aware of it. Social media is watching everything you do."

As a member of a sexual minority and a longtime gay rights (and free speech) advocate, I was especially discouraged to see an unrepresentative but outspoken minority of transgender activists resort to social intimidation. In Britain, reported *The Economist* in August 2019, "any discussion of transgender issues is explosive." In the United States, wrote Robby Soave in his 2019 book, *Panic Attack: Young Radicals in the Age of Trump*, "many of the loudest trans voices, particularly on social media, routinely decry all criticism of their activism as not just wrong but a form of assault." He quoted one professor as saying, "They do manage to terrify people into silence." Targets of such campaigns could become socially radioactive. They could lose their reputations and their jobs or businesses, and also

many of their friendships and social connections. Socially and professionally, they could be, as the new term had it, canceled.

For sure, self-censorship is part of living together (we call it "courtesy")—but not when it impedes honest conversation and criticism in university intellectual life, where honest conversation and criticism are the whole point of being there. In the 2010s an unmistakable turn in that direction had happened. Jonathan Haidt, a prominent social psychologist at New York University (whose work is an inspiration for this book), said in an interview with the radio host Bob Zadek in 2018:

> In 2015, call-out culture spread much more rapidly around the country. I would say that it is everywhere to some extent. Students are much more defensive and much more afraid of disagreeing with the dominant view. The nature of college as a free place with free-flowing discussion, where you can be provocative and challenge the dominant people or ideas, is weaker than it was just four or five years ago.

Ordinarily, one might have hoped that coercive pressure to conform with particular viewpoints would meet resistance from academia, and sometimes it did. What was worrying, though, was that, at least as often, figures in the academic world led and justified canceling campaigns—and their most frightened targets were often their academic peers. "I'm in my mid-forties," a stranger named Holly emailed me, "and have always considered myself a liberal, but it's getting harder and harder to associate with this absurdity. I'm currently in grad school in Denver and I'm betting there are fewer places on earth more ridiculously left-wing than colleges right now. The terms seem to change by the week and it's completely exhausting. People don't want to say anything because everyone's so goddamn scared of offending someone."

Increasingly, when I visited campuses in recent years, I would be approached by students—frequently first-years, not yet acculturated to university life—who expressed dismay about limits on acceptable thought. Left-of-center students felt just as besieged as right-of-center students. One Princeton graduate told me he had made it a rule never to discuss race, gender, or sexuality on campus—period.

When I asked why, he replied, "Because it's all downside." His friend, a recent Harvard graduate, agreed.

Campus threats to freedom of expression were not new in the 2020s. University speech-codes had been on the books, and controversial, since the late 1980s. Off-campus threats to freedom of expression were even less new. My first newspaper boss liked to say that if the First Amendment were put to a plebiscite, it would lose. Chances are you have read quite a lot about those problems, and I have examined them in my own previous work, and so the object of this book is not to rehash what has already been hashed.

Something did seem new and different, though. In the late 1980s, when campus free speech became a national issue, challenges came predominantly from professors and bureaucrats championing speech codes and defending them with elaborate theoretical rationales. Although they did not give up, by the mid-2010s the complexion of the problem had changed. Both in academia and outside of it, the problem had come to look less like censorship and more like censoriousness, which is to say a combination of conformity and intimidation. Students said they worried less about speech codes than social pressure, mostly from their peers, not professors. In polls and in conversations, they reported being worried that one wrong comment might set off a firestorm of condemnation among peers or on social media, and they could never be sure what comment might be the trigger. They frequently told me that their professors, far from being "tenured radicals," generally tried to encourage honest classroom discussions—yet unorthodox students still shrank from speaking freely for fear of inviting hostility. A law student I know recounted how a white male student became the object of a call-out campaign after other students overheard him using the phrase "Do you understand what I'm saying?" in conversation with a female African American professor. (Fortunately for him, she came to his defense.) An Ivy League teacher told me, "I've found that if students have an opportunity to jump on someone, they usually take it." Sam Foer, an undergraduate I interviewed, transferred out of his private liberal arts college because white male students like him were ritually denounced on campus and online as Islamophobic, racist, misogynistic, and the like. "People who were genuine liberals were being eaten alive by the radical wing

of this campus culture," he told me. If a student "so much as disagreed with a person of color, in such a way that a person of color could even manufacture an argument to call the other person racist, then they would do that. It instilled this feeling of being coerced into self-censorship: not being able to speak, even to have conversations, with our peers. That coupled with the treatment I was subject to, I just said, I'm out; it's not worth it."

Polls showed he was not alone in feeling "coerced into self-censorship." A poll conducted in 2017 for the Heterodox Academy project found that almost half of all students reported reluctance to discuss race and politics in the classroom; 41 percent were reluctant to discuss gender. A majority said they did not think their school frequently encouraged students to consider a wide variety of viewpoints and perspectives. Over the next three years, other polls suggested the temperature was only growing chillier. A poll for the Knight Foundation in 2019 found that "more than two-thirds (68 percent) of college students say their campus climate precludes students from expressing their true opinions because their classmates might find them offensive."[7] That result had become quite typical.

Faculty felt the chill, too. News stories abounded about incidents like one at Sarah Lawrence college: when a professor wrote a *New York Times* op-ed piece arguing that college administrators lacked ideological diversity, students mobilized to demand his firing (euphemized as "tenure review"), saying his presence on campus threatened their "safety and well-being." A professor I met, who taught sociology at a university widely regarded as conservative-leaning, told me, "Everyone is 'careful' on campus these days. Including me: I have not and will not discuss my research on affirmative action and diversity outside my own classroom." At one private university, a young neurobiologist told me she had dropped a module on autism from her course on brain development. A student had complained that the module might be interpreted as demeaning to the autistic. Her dean had dismissed the complaint, she told me. And, as I pointed out, dropping the material gave her no real protection because another complainant could just object to something else. Why, then, drop the module? Because, she said, she took the complaint as "strike one." She lacked tenure protections and could not afford a strike two

or three. Even world-famous faculty with tenure silence themselves. In a lecture at Case Western Reserve University in 2018, Haidt, the psychologist, said: "I don't take any chances at NYU. I don't say anything controversial. I can be controversial with you, because you can't report me. You can't do anything to me if I say something that offends you. But if I'm at NYU, there's a sign in every bathroom telling students what number to call or what email to send to report me or anyone else who says something that they think is offensive. So I just don't take chances at NYU."

All downside.

Ironically, although canceling chilled dissent on the center and left, it was a godsend to trolls on the right. Political correctness, as they called it, helped raise the likes of Trump and Breitbart News and even Russian troll farms to new heights of influence. "For decades," wrote the political scientist Bill Schneider, "political correctness has been used to shut down debate. Activists on the left refuse to allow people to say things that might offend less privileged groups such as women, gays, African Americans, and immigrants. . . . White working-class men seethe whenever political correctness denigrates them as 'privileged.' They certainly don't feel 'privileged,' not after the economic devastation of the past decade. Their response? Defiance."[8]

Research confirmed what common sense suggested: in a land of free, independent-minded people, norm-policing backfires against the norm police. The policed may go mute in public, but resentment builds up in their hearts and homes, then bursts forth in the voting booth when activated by a demagogue. As one study found in 2017, "Temporarily priming PC [politically correct] norms significantly increased support for Donald Trump" (and not just among right-wingers: the study's participants were "largely politically moderate Americans").[9]

Donald Trump certainly agreed. "I think the big problem this country has is being politically correct," he said during his 2016 campaign. "I've been challenged by so many people, and I don't, frankly, have time for total political correctness. And to be honest with you, this country doesn't have time, either."

Maybe not much time, unless the traditional champions of the Constitution of Knowledge return to the fold.

The Strangest, Best Idea Ever

This book explains and defends the Constitution of Knowledge, liberalism's epistemic operating system: our social rules for turning disagreement into knowledge. The system did not assemble itself by some automatic social magic; it was the product of hard-fought battles and hard-won norms and institutions, and many people suffered and bled for it along the way. It is not self-maintaining; it relies on an array of sometimes delicate social settings and understandings, and those need to be understood, affirmed, and protected. By explicating the Constitution of Knowledge, and by exploring contemporary threats to it, I hope to arm its advocates with a clearer understanding of what they must protect, and why, and how.

The argument builds upon the framework I developed in my book on how free societies make knowledge, *Kindly Inquisitors: The New Attacks on Free Thought*. Those familiar with that book will find no fundamental rethink here, but they will find a change in the angle of view. In the earlier book, I teased out the implications of two rules on which the modern liberal epistemic order—what I call "liberal science"—is founded: *no final say* and *no personal authority*. I argued that wherever people adhere to those rules, they will form a community of error-seeking inquirers accountable to each other but never to any particular authority, and knowledge will arise from their hive-like, largely self-organizing activities. I used the term "liberal science" partly to emphasize that the system is, like capitalism and democracy, depersonalized and decentralized and rules-based; also because I needed a more inclusive term than just "science," which connotes hard sciences like physics, whereas "liberal science" includes the softer sciences and even humanities such as literary criticism and moral philosophy, plus mainstream journalism and aspects of jurisprudence and intelligence work: all the fields in which investigators use impersonal critical exchange to seek truth and hold each other accountable for accuracy.

Over the years, I came to believe that the framework of *Kindly Inquisitors*, while it had held up well, could be strengthened by paying more attention to the institutional and communitarian foundations of collective inquiry. The sudden rise of industrial-scale trolling and dis-

information made the institutional defense seem urgent. In this book I have supplemented "liberal science" with the term "reality-based community," by which I mean the social network which adheres to liberal science's rules and norms. My hope is that "reality-based community" captures the notion that liberal science is no mere colloquy of individuals, each doing her own thing and occasionally interacting with others, like gas molecules in a balloon or bumper cars at the amusement park. The community's interactions are structured and elaborate and amount to much more than just the sum of its individuals' doings, and the essential enablers, connectors, and transmitters are *institutions*. Institutions propagate and enforce norms and rules, evaluate and certify credentials, set agendas and direct resources, enforce accountability, and train future generations to do all of those other things, and more. That is why, today, the institutions and norms of liberal science, not individuals, are the real targets of attack by nihilists and bullies.

But institutions and norms are hard to see. Unlike individuals, they do not star on television or YouTube, and they do not entertain or outrage us. When they work, they permeate the intellectual environment, providing context and policing boundaries and nudging behavior without drawing too much attention to themselves. Making them visible and bringing them to the foreground is hard. Where, I wondered, might one look for an understandable way to think about the rules and institutions which vet knowledge and produce facts? The answer, when it finally came to me, seemed obvious.

Modern liberalism—what the philosopher Karl Popper and subsequently others have called the open society—is defined by three social systems: economic, political, and epistemic. They handle social decisionmaking about resources, power, and truth. The epistemic system is often analogized to the economic system, through the metaphor of the marketplace of ideas. But the parallels between the epistemic and political systems, although less well developed, are in important respects more revealing.

This book, then, proceeds by way of an extended analogy: between the United States Constitution (not just the text of the Constitution on paper but the institutions and norms which embody the Constitution in action) and the Constitution of Knowledge, by which

I mean the rules which define liberal science and organize the reality-based community. Like all analogies, it can be taken too literally or too far, and in some respects I may have overworked the comparison. Still, the parallels are real and many, and even the differences are illuminating. Both constitutions are foundational to modern liberalism and instrumental in bringing the peace, prosperity, and freedom which liberal societies uniquely enjoy. Both have their taproots in the same stream of social thought; they even trace their pedigrees to some of the same people. Both are social compacts, agreements to follow certain rules and forgo certain claims because other group members will do the same. Both place coercion off-limits and require people to negotiate and reach agreement in order to make laws or knowledge. Both distribute decisionmaking across many competing and cooperating actors, using checks and balances to create networks of accountability. Both provide strong guarantees of individual rights, yet also, in exchange, require participants to meet challenging standards of behavior. Both work only because they combine formal rules and strictures with informal norms and implicit virtues. Both are embodied in institutions and require being understood and defended in institutional terms. Both are simultaneously resilient and fragile. Both are under unending attack from adversaries who never tire of trying new attacks when old ones fail.

The book begins by updating Plato's *Theaetetus* with a survey of the reasons humans make cognitive blunders, turn them into tribal disagreements, and wind up at war over knowledge. It then shows how generations of philosophers and scientists developed the modern epistemic order—a more gradual and organic constitutional founding than the one in Philadelphia in 1787, to be sure, but a founding nonetheless. With that as background, it explores the architecture of the Constitution of Knowledge—like the U.S. Constitution, a social mechanism to force conciliation—and the boundaries of the reality-based community.

In its second half, the book turns from history and theory to several contemporary challenges, beginning with the most unpleasant epistemic surprise of the twenty-first century: digital media have turned out to be better attuned to outrage and disinformation than to conversation and knowledge. Truth-friendly digital architectures are

possible and indeed are already emerging, as digital platforms begin to take on institutional responsibilities to truth. Less fortunately, however, they—and we—are in for a fight against two insurgencies: the spread of viral disinformation and alternative realities, sometimes called troll culture, and the spread of enforced conformity and ideological blacklisting, sometimes called cancel culture. One is predominantly right-wing and populist, the other predominantly left-wing and elitist. One employs chaos and confusion, the other conformity and social coercion. But their goals are similar, and often, weirdly, they act as de facto allies.

What troll culture and cancel culture have in common is that they are techniques of what propaganda experts often call information warfare. Rather than using rational persuasion to seek truth, they manipulate the social and media environments for political advantage. They may appear marginal, disorganized, or unhinged, but they are aggressive, expansionary, and rooted in a sophisticated understanding of human cognitive and emotional vulnerabilities. They have captured commanding institutional heights, including (for four years) the White House and substantial parts of academia. They exploit the capabilities of digital technology to amplify their speed and reach. But they have also engendered encouraging pushback, as awareness of the methods they use and the dangers they pose has grown.

Woke to Reality

I am not an alarmist. To the contrary, I write this book in a spirit of hope and guarded optimism. In the digital-media world, impressive commitment and innovation are being brought to bear against disinformation attacks, and the enemy no longer has the advantage of surprise. In the academic world, deep reservoirs of scientific integrity remain present to be tapped. Today's challenges to the Constitution of Knowledge are comparatively tame by historical standards. The miracle is how robust free expression and liberal science have proved to be, despite unremitting attacks from every direction over hundreds of years. The idea that obnoxious, misguided, seditious, blasphemous, and bigoted expressions deserve not only to be tolerated but, of all things, protected is the single most counterintuitive social principle

in all of human history. Every human instinct cries out against it, and every generation discovers fresh reasons to oppose it. It is saved from the scrapheap of self-evident absurdity only by the fact that it is also the single most *successful* social principle in all of human history. Those of us who favor it, and also our children, and also their children and *their* children, will need to get up every morning and explain and defend our counterintuitive social principle from scratch, and so we might as well embrace the task and perform it cheerfully.

By way of recompense, we can marvel at how well our seemingly ludicrous proposition has done. Somehow, despite its implausibility and its exacting rules and its complex institutions, the liberal epistemic order—the Constitution of Knowledge—has always found a way forward. But it relies, at bottom, on the full-hearted embrace and full-throated defense of its principles by ordinary members of the reality-based community—people like you and me and Sam Foer.

Foer left his liberal arts college. "I wanted a place where I could have intellectual conversations without that fear of being defamed," he told me. He transferred to a public university. There, after a summer internship at the Foundation for Individual Rights in Education (or FIRE, a civil liberties group), he launched an effort to revise the student handbook's speech policies, which had received FIRE's lowest free-speech rating. He organized a free-speech event and lobbied the university administration, where he found support. And he succeeded. The student handbook was rewritten. As of this writing, his school boasts FIRE's highest rating, a symbolic green light.

"For me," Foer said of the socially enforced conformity at his first college, "it inspired a political awakening, and it inspired serious concern for the future of education. In that sense, what I experienced there was a blessing. It was a blessing disguised as a curse. I wish I hadn't been subjected to that treatment, but truly it has inspired me to push back and keep the fight up.

"A lot of people," Foer continued, "back down in the face of resistance and say, 'My degree is more important to me than fighting to change these policies.' From what I've seen, it takes a person with the passion of a die-hard activist to make these kinds of changes."

Foer's passion is the spirit of the Constitution of Knowledge—the spirit this book seeks to defend and empower.

2

The State of Nature: Tribal Truth

Bias, groupthink, and the epistemic war of all against all

In 2018 Americans waited anxiously for answers. A special prosecutor, Robert Mueller, was digging into the activities of a president, Donald Trump. The president's future seemed to hang in the balance.

Well, some people waited anxiously. Others already knew the result. As a Trump supporter named Donna Kowalczyk told the journalist Ben Bradlee Jr., "I don't think there's anything to it. If they find something, they will have made it up."[1]

To say that she and I approached the question differently would be an understatement. As a professional journalist, I am evidence-based, dispassionate, and fair-minded. I decide after I have the facts, not before. At least, that is how I flatter myself.

But really, am I so different from Ms. Kowalczyk? Or am I merely a member of a different tribe, and as biased and blind to my biases as she or anyone else? And suppose, for argument's sake, Ms. Kowalczyk is in fact less evidence-based and dispassionate than I: whose

way of thinking is more normal and natural? Whose way is more serviceable for most humans in most circumstances?

The answer: not mine.

"Reason Is the Slave of the Passions"

In the mid-1600s, the English philosopher Thomas Hobbes delivered a jolt from which political philosophy never entirely recovered. Aristotle had identified humans as political, or social, animals. But to what kind of politics and society are humans naturally inclined? As we might say today, what is human society's default setting—or, as philosophers framed the question centuries ago, what is the human "state of nature"? From Plato down through the Middle Ages, the predominant answer was that people are hierarchical: they settle into orderly patterns in which the wise or strong or godly or aristocratic rule over and protect the ignorant or weak or infidel or vulgar.

Hobbes demolished the Great Chain of Being. Around him raged the English civil war, a traumatic struggle which would haunt and shape political thinking for generations to come. No wonder he regarded the human animal as fundamentally self-interested and warlike. Left to themselves—as he argued in *Leviathan*, his masterpiece about state and society—people live not in orderly hierarchies but in a state of constant competition and rivalry, riven by personal and tribal struggles for power. The state of nature, Hobbes argued, is a state of war of all against all.

> In such condition there is no place for industry, because the fruit thereof is uncertain, and consequently no culture of the earth, no navigation nor the use of commodities that may be imported by sea, no commodious building, no instruments of moving and removing such things as require much force, no knowledge of the face of the earth, no account of time, no arts, no letters, no society, and which is worst of all, continual fear and danger of violent death, and the life of man, solitary, poor, nasty, brutish, and short.

Audaciously, Hobbes set himself the seemingly impossible task of using his pessimistic view of human nature not as an argument for anarchy but as a foundation for order. The task of bringing peace, he argued, could be performed only by "leviathan," a sovereign monarch invested by the people with irrevocable power to govern them. But who would govern the monarch? Who would rule the ruler? That question awaited an answer.

Something like the Hobbesian political earthquake happened in the epistemic realm, too. Ever since Plato, philosophers had been aware that the senses can deceive and belief can err. But they assumed that humans naturally incline toward truth and that reason, God's unique gift to our species, would guide us. Almost 300 years ago, the Scottish philosopher David Hume challenged that default assumption. In his *Treatise on Human Nature*, he issued one of the firmest and most famous declarations on the matter: "Reason is, and ought only to be, the slave of the passions, and can never pretend to any other office than to serve and obey them." Hume did not deny the utility of reason as a tool for thinking, but he believed that reason is like the navigator in the passenger seat, able to suggest directions but not to steer the car, and that our emotions and moral intuitions are in the driver's seat. In the last few decades, a blizzard of scientific research has settled the argument between Hume and the ancients. Hume won.

Back, again, to the state of nature, or what modern scholars call the environment of evolutionary adaptation: why did higher reasoning, the pride and joy of *Homo sapiens*, arise in the first place? Certainly, doing arithmetic, manipulating symbols, and communicating concepts are useful for survival; but all kinds of creatures survive and thrive and form sophisticated social groups without the help of symbolic reasoning.

Modern scholarship suggests that reasoning arose from a different imperative than raw survival: persuasion. People originally lived in small bands, or tribes. Survival depended on being able to win a secure place within the group for one's self and one's children. Being shunned, abandoned, or cast out could be fatal. In contrast, high status could bring resources and mating opportunities. One way to gain dominance might be physical, by killing or overpowering competitors; but that path invites rivals to form alliances and go to war.