

Choosing Truth: What It Is, Why It Matters, and How to Discover It is a masterful work that provokes profound contemplation. It challenges us to reevaluate our understanding of truth and its profound significance in our lives. This book stands as a clarion call for the relentless pursuit of knowledge and the alignment of our beliefs with objective reality. I wholeheartedly recommend it to anyone seeking a deeper comprehension of truth, belief, and their profound implications for our world. It is an essential read for those who aspire to navigate the intricate tapestry of our modern society with clarity, integrity, and an unwavering commitment to truth."

Michael Thambynayagam, PhD, Retired Schlumberger Scientist,
Former CEO & Managing Director of Schlumberger Gould Research
Plc, Cambridge, UK, and author of *The Diffusion Handbook:
Applied Solutions for Engineers*, 2011, McGraw Hill.

"*Choosing Truth* is an arresting title for this challenging and seminal book, extending the authors' earlier work on belief and knowledge to confront the question of truth itself. A timely and unsettling call for reflection but also a profound check on the challenges to truth in our divided and increasingly virtual world."

Dame Lynne Brindley, Master Pembroke College, Oxford (Retired),
and former Chief Executive of The British Library

"Truth is often found in both the sometimes apparently contradictory constituents of a specific reality and the larger whole of that reality. This piecing together of different realities to form a new and different

reality has been a driving force and a path to discovery in my scientific work and a source of frustration, disappointment and suboptimal results when narrow and non-integrated perspectives predominate. This idea, expressed as complementarity, is one of the core themes of the book *Choosing Truth: What It Is, Why It Matters, and How to Discover It*. The authors aim to help the reader usefully comprehend the intersection of reality, belief and knowledge around the central concept of truth. Based on the insights of philosophers, scientists and other thought leaders throughout intellectual history with an original and pragmatic twist, the authors provide a framework for making sense and use of the facts as well as rejection of the non-facts or false beliefs that that surround and seek to influence us every day."

Gordon Klein, M.D., Senior Scientist and Adjunct Professor,
Department of Orthopaedic Surgery, University of Texas Medical
Branch, and Fellow, Royal Society of Medicine

"In my life's work in education and Anthropology, a major theme has been to seek truth in people, cultures and behaviors. *Choosing Truth* cuts through the dark forces of deceit, hypocrisy and misinformation. My legacy is to present the truth about the Civil Rights Movement in the U.S. This book is a timeless resource for not only the past and present but as a guide to the future. Douglas and Wykowski delve into the best of science today and interweave objective thinking throughout several disciplines including AI to extract an invaluable methodology for truth. They overcome dualistic analysis because truth is often nuanced and requires critical thinking. The timing for this book could not be better when books are being banned, history is being altered and technology is at our disposal as either a tool for truth or untruth. More than ever, unadulterated, unadorned and pure truth

is necessary for creating and maintaining free and civilized cultures throughout our diverse world and *Choosing Truth* accomplishes this!"

David Hodges, Ph.D., Professor of Anthropology (Retired),
Hunter College, City University of New York.
Editor/Author of *The Anthropology of Education, Classic Readings*;
Introducing Cultural Anthropology, Essential Readings;
Rethinking Debatable Moments in the Civil Rights Movement

Choosing Truth

*What It Is, Why It Matters, and How to
Discover It*

By

Neil Douglas and Terry Wykowski

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This book is dedicated to those of us, present and future, with a commitment to truth and the courage to find and follow the challenging paths to creating and sustaining just, free and purposeful societies.

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Foreword

Our daily lives and our living environments have vastly changed over the past few decades. Digital life “reshapes the bed of the river”, to use a Wittgensteinian metaphor. Life is no longer confined to particular physical spaces and their limitations. Our digital technology has changed how we play, work, buy and sell, take care of others, socialize, and communicate. It has deeply transformed our reality both in an ontological and epistemological sense. Billions of people are connected today. They spend many hours a day online, absorbing and sharing information - information that is more often unreliable if not false. Only a small percentage of what we hear and read is actually true. As the philosopher Bernard Williams presciently writes in 2002, the internet not only globally connects us in a positive sense. It also exponentially magnifies what used to be that mainstay of all villages, gossip. “The chances that many of these messages will be true are low, and the probability that the system itself will help anyone pick out the true ones is even lower... [T]he chances of acquiring true beliefs by these means, except for those who already have knowledge to guide them, will be much like those in the Middle Ages.” In human societies, information bubbles have always existed. The medieval village is replaced by today’s social media sites. The only difference is that communication no longer requires physical connectedness.

It is unsurprising then that people get very confused when talking about truth. The word itself when looking at human discourse is chameleonic, ambiguous, tricky to define, whether in philosophy or in everyday talk. It takes on different guises and functions and it makes its way into a multitude of metaphors. We speak of the light of truth that dispels the darkness of ignorance, or of truth as a torch that guides us. Truth sometimes is compared to a perfect mirror that reflects

reality without distortion. At other times it is described as a rock—solid, unchanging, dependable. But truth may also be bitter, a double-edged sword—on one hand powerful and beneficial, on the other painful to face. And then there is truth as an open book available to anyone who cares to take note, or a key that unlocks our understanding. Coming to know the truth is revelatory and can be transformative to our lives.

Figures of speech abound; we have somehow intuitively learned how and when to use the words ‘true’ or ‘truth’ without having a good grasp of what truth is or what it takes to arrive at the truth. Is truth the same in different areas of human discourse—the sciences, morality, aesthetics? Is a moral truth true in the same way a mathematical fact is true? Or is truth plural, multifaceted? Do different areas of inquiry in the different domains of reality, as the authors of this book put it, dictate their own criterion of truth—whether mirroring of the world, system coherence, practical utility, or simply temporary consensus? Is truth tied to authority or to fact?

Truth is often treated as though it was an elusive object to be uncovered or captured—a hidden treasure, a rare animal, an escaped helium balloon. We know that “the truth is out there” to be found and disclosed, even if we are not sure yet how to go about it. Truth with a capital ‘T’ is often considered that ineffable totality, a placeholder for the deepest secrets of the universe, the true nature and purpose of everything, a mysterious foreign reality that defines as much as defies us. And we come across its twin notion when turning inwards to look at our innermost natures. Here truth means authenticity—the rediscovering of one’s true self, an alignment of one’s actions with one’s values, a reconnecting with a time before the distorting grip of societal expectations took hold of us and destroyed this innocence.

Suspicious of so many versions of truth and so many diverse associations, doubt may set in for intuitions to drift the other way. Is there even anything substantial behind the concept? Only the law courts seem undeterred in their pursuit to get to the truth albeit via people's dappled recollections. Do we really need to understand and define what truth is? Why not stop thinking truth and start thinking consensus which, as a notion, is philosophically and psychologically far easier to deal with? Truth is simply strength in numbers. If truth is not objective, but ultimately a product of language, culture, and human practices, then trying to find universal standards is a non-starter, a lost project. Truth, the very influential American pragmatist Richard Rorty suggests in his deflationary account of truth, is a concept that is irrelevant and redundant altogether. "The word 'truth' is simply a compliment paid to sentences seen to be paying their way."

A close cousin of this rather seductive proposal concerning truth is truth relativism. Truth relativism, the denial of truth as independent of human thoughts and practices, is as old as humanity. Its most recent expressions are found in poststructuralism where truth, knowledge and meaning are not fixed but constantly shifting and subject to societal power structures. Truth relativism claims that there are no abstract principles or absolute truths anywhere, that my truth is my truth, and your truth is your truth, and everyone is right. Truth equates to belief and genuine error gets replaced with disagreement. Such an account ultimately loses its grip on the notion of truth. But wait, we might interject, is it really coherent to say that contradictions don't matter? It seems that ordinary rational discourse presupposes a non-relativistic notion of truth. When we tell others about what we think is true we don't just voice our opinions. When making a claim we tend to want to say something we think is objectively the case. We don't argue about things we take to be true for only one person. Everyone has their predilections and preferences. Preferred choices

are subjective. No error has occurred. Disagreement here is faultless. And some beliefs are indeed just like that. But asserting something in a speech act is not just conveying a preference or offering an opinion. An assertion makes a claim about reality, about how things are, not how we believe them to be. Our beliefs, Simon Blackburn suggests, are like arrows that are aimed at a target and the target is reality, not mere conviction. And our attempts at getting it right can be better or worse in terms of hitting the bull's eye. In truth relativism, on the other hand, it is like shooting an arrow at a stable door and then painting the bull's eye onto the door where the arrow has landed.

In antiquity, the idea of truth relativism was floated by Protagoras and the Sophists, and it flustered and frustrated Plato because he could see the societal and political consequences of this divisive, objectivity-defying, sneering and nihilistic attitude towards an independent standard for truth. Gone are epistemic virtues like fact-checking and the fostering of reliable methods of problem-solving. If humans “are the measure of all things” then truth is reduced to personal conviction. If truth is always ‘true for someone’ then being truthful could hardly mean more than nurturing one’s self-serving goals. If truth is tied to the volatility of human opinions, in the hands of social and political powers it becomes an asset for want-to-be authoritarians. Now the game is all about who controls the standards of truth, and with it the narratives. In such a world, true and false are without distinction and the lines between right and wrong have become blurred. As the much adored Hannah Arendt warned in her famous essay in *The New Yorker*, “[t]he result of a consistent and total substitution of lies for factual truth is not that the lie will now be accepted as truth and truth be defamed as a lie, but that the sense by which we take our bearings in the real world—and the category of truth versus falsehood is among the mental means to this end—is being destroyed”. Truth no longer has a stable position in our conceptual networks. Anything goes.

For all these reasons Plato thought of relativism as nothing but pernicious. Democracies are particularly vulnerable because relativism has the potential to drive its citizens either into cultural divisions and political chaos or, when the squabbling becomes unbearable, into the hands of authoritarians. In terms of our mental lives, relativism is a natural enemy of critical reflection, Plato thought. It undermines our commitment to improve our thinking and stood in the way of using reason as an instrument of intellectual and social progress.

And Plato certainly had a point there. His detractors do not doubt the relevance of his assessments of relativism. They question his perhaps too optimistic picture of human nature. As Yuval Noah Harari contemplates across several books, judging by human developmental history, truth never had much of a central place. It had always been primarily about power over others. Not lofty ideals and good reasoning, but persuasion was the favored game in town. Insights and wisdom were always less important to the tribe, at least on balance, than getting others on our side, strengthening our factions and, most importantly, marking out our opponents.

If truth was under threat from relativists, another formidable enemy was scepticism. Even if we did not field with relativism and tried to take the quest for truth seriously, is truth even attainable? Doubts about our successful connecting with actual reality have always exercised the philosophical scene. Assumptions about the physical environment, a particular set of values, the existence of God, were periodically challenged whether then or now. How could we really know that we got it right? Considering our best theories, is there not always an assumption that this is not the final word? Have the burning pyres of history not shown time and again how wrong we were on so many big issues where we claimed knowledge and absolute truth?

Not unlike the relativist, the argument from cynics, doubters and deniers is undermining. On a deeper level, the true state of things is something we will always be barred from knowing, something that is in principle unobtainable or at least not amenable to human endeavors. Whatever we think truth is, it is, in reality, but an intermediary, a construct, an illusion.

Letting scepticism go this far may be an option for pessimists, but there is something deeply unsatisfying and unproductive about this stance. If we bought into it wholeheartedly, why would it ever matter whether we are making progress in so many ways? Yes, insights may be partial and the theories we have developed in need of adjustment. But why should this not be acceptable and respectable? Why not think of truth as a target—under intense focus even if for the time being our knowledge is still incomplete?

Why then is truth important? To the authors of this book truth matters in a profound sense. Denying it fosters epistemic indifference, a laziness or aloofness to serious engagement, a carelessness about misvaluations, an inclination to faddish indulgences and storytelling. As such this book is an indispensable resource, not only for philosophy but also for everyday life and any field where truth plays a central role. Whether in education, political science, public discourse and policy making, diplomacy, journalism, economics, or management, it serves as a valuable tool for critical thinking, an important reminder of the relevance of truth and as a guide to a robust defense of objective truth. It offers a concerted effort to stem against the very real dangers of relativism and scepticism, and against a climate of truth denialism, conspiracy mongering and the blatant misrepresentation of facts. Never more than now is it important to fight against those that are out to confuse and divide society and make it impossible for people to enter into constructive exchange with one

another—the fundamental precondition for democratic conversations. If the societies of this planet were to make it through the next few decades and the disorientating changes that are upon us unscathed, we are compelled to approach the future with a clear head, a clear grasp of the circumstances and a clear goal—that is, a grasp of the predicament in which we all find ourselves. Now more than ever does truth matter.

Julia Weckend, PhD

Oxford

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Chapter 1

Introduction

“...qui est en droit de vous rendre absurde est en droit de vous rendre injuste.” “Anyone who has the power to make you believe absurdities has the power to make you commit injustices.” Voltaire

Does truth exist? Does truth matter? Increasingly it feels like we’re living in a society where the answer to both questions is no, and where popular notions support the idea that anyone’s conception of truth is as good as anyone else’s. Blatant fallacy expressed as denial, propaganda, and obfuscation around what is real and true is pervasive; significant segments of society deny the legitimacy of evidence and science. As governments, organizations, and individuals, we often act based on beliefs or arguments or explanations which are decidedly false, and our polarized political environment leaves us open to the influence of charlatans, demagogues and aspiring authoritarians who will say anything to promote and serve their interests. There is an apparent political reality that truth is irrelevant, that tribalism and what appeals to ‘people like me’ is what matters in getting votes and in seizing and holding on to power. Tribes provide badges of identity but not thoughtful assessments of reality in the interest of truth. George Packer wrote in *The New Yorker* “American politics today requires a word as primal as ‘tribe’ to get at the blind allegiances and huge passions of partisan affiliation. Tribes demand loyalty, and in return they confer the security of belonging. They’re badges of identity, not of thought. In a way, they make thinking unnecessary, because they do it for you, and may punish you if you try to do it for yourself.”¹ Observing that truth

seems to be more intensively under attack and crippled, Oxford Dictionaries declared “post-truth” international word of the year in a recent year. Post-truth is defined as an adjective relating to circumstances in which objective facts are less influential than emotional appeals. A spokesman for Oxford Dictionaries said “Fueled by the rise of social media as a news source and a growing distrust of facts offered up by the establishment, post-truth as a concept has been finding its linguistic footing for some time. Given that usage of the term hasn't shown any signs of slowing down, I wouldn't be surprised if post-truth becomes one of the defining words of our time.”²

The stark and self-evident *truth*, however, is that we do *not* get to construct our own worlds and create our own truths, as appealing as that idea may be. Truth exists! We are all shaped, animated, sustained and constrained by physical, chemical, biological, and social reality and we deny or fail to align our beliefs and action with reality at our own peril. This is such a simple and direct statement of demonstrable fact that it is truly astonishing that we have gotten ourselves as societies and even as a species into such an absurdly dangerous place, a place that is so clearly at odds with the interests of our individual and collective well-being and our survival. But beyond the simple statement of fact that objective truth exists, truth in its varied dimensions and contexts is not simple and straightforward. Truth can be nuanced, shaded and variable by degree. Truth also tends to be superficially understood and not broadly comprehended in the same way by everyone, although our apparent embrace of the idea of truth suggests that we know what it means and that we know how to assess beliefs, propositions, etc. and are in the habit of doing so. Deniers that objective reality and truth exist are emboldened by the nuanced nature of truth, by the existence of multiple realities with varying natures and by the fact that certainty regarding the truth in all cases may not be justified. It is also the case that a nuanced conception of truth opens a

path to the manipulation and misrepresentation of the truth through simple ignorance by well-meaning people as well as by those who know yet seek to gain something for themselves at the expense of others. The fact that truth is not always simple and absolute, however, in no way diminishes our moral imperative to seek it and to act consistently with the truth as we can best know it!

The consequences of false conceptions and explanations of reality are profoundly negative in any context. Slightly rephrased, Voltaire's quote from above would read – "Anyone able to make you believe lies has the power to make you do unspeakable things." Nothing illustrates the truth of Voltaire's assertion and why *truth matters* more clearly than the excruciating detail in the book *Bloodlands: Europe Between Hitler and Stalin* by Timothy Snyder. Bloodlands refers to the land between Germany and the Soviet Union, including much of the then Soviet Union, between the years 1933 and 1945. Fourteen million non-combatant Jews, Poles, Ukrainians, Byelorussians, Russians, and Balts were killed in systematic, brutal, fully intentional actions of citizens of the USSR and Nazi Germany by starving, shooting, and gassing. Driven by the carefully crafted lies of despotic leaders of governments, ordinary people were moved from ignorance to fear to hatred to actions of extreme inhumanity and atrocity against other human beings. The Great Famine of 1932 and 1933 was a manmade, "killing by starvation" catastrophe that cost the lives of at least 3 million Ukrainians. The fabricated narrative in support of Soviet nationalism and consolidation of power made the Ukrainian peasants the cause of their own starvation and Stalin the victim. "Stalin was a pioneer of national mass murder" and the Poles in addition to the Ukrainians were preeminent targets. The Poles, like the Ukrainian peasants had to take the blame for the failure of agricultural collectivization. The rationale was invented during the famine itself in 1933 and then applied during the Great Terror in 1937 and 1938. Mass

starvation was explained as a provocation of an espionage cabal that Stalin called the Polish Military Organization which had sabotaged the harvest and then used the starving bodies of peasants as anti-Soviet propaganda. "This was an invention. There was no Polish Military Organization in the 1930s in Ukraine or anywhere else." "The Polish Military Organization, conjured up during the famine in 1933, was sustained as pure bureaucratic fantasy in Soviet Ukraine, then adapted to justify a national terror of Poles throughout the Soviet Union."³

"Totalitarianism rested, in Hannah Arendt's view, above all on the systematic refusal to engage reality, on the substitution of ideological fantasy and outright fiction for reason and empiricism."⁴ "The ideal subject of totalitarian rule is not the convinced Nazi or the convinced Communist, but people for whom the distinction between fact and fiction (i.e., the reality of experience) and the distinction between true and false (i.e., the standards of thought) no longer exist."⁵ "In Stalin's Soviet Union as well as Nazi Germany, 'truth' was considered a theoretical construct under the control of human architects." "Soviet and Nazi propagandists created truth out of thin air."⁶ The well-known fallacy lying beneath the murder of 6 million Jews by the Nazis centered on the false belief, among those Germans who accepted Hitler's view, that Germany had not been defeated on the battlefield in the last war, but instead had been brought down by a "stab in the back", a conspiracy of Jews and other internal enemies. Nazi propagandists exploited pre-existing images and stereotypes to give a false portrayal of Jews as an alien race that fed off the host nation, poisoned its culture, seized its economy, and enslaved its workers and farmers. Jews were responsible, according to the Nazi narrative, for the post World War One suffering of the German people and Germans were, therefore, justified in executing the "Final Solution" of physically exterminating the Jews.⁷

The enslavement of human beings in America was justified by the lie that enslaved people of African descent are inferior and less than fully human.

“They believed that black people had large sex organs and small skulls — which translated to promiscuity and a lack of intelligence — and higher tolerance for heat, as well as immunity to some illnesses and susceptibility to others. These fallacies, presented as fact and legitimized in medical journals, bolstered society’s view that enslaved people were fit for little outside forced labor and provided support for racist ideology and discriminatory public policies.”⁸

The truth about slavery matters in the present day and is being undermined by the institutionalization of the lie that ignoring the legacy of 400 years of the enslavement of black people is “positively good” for the United States. The author and academic Ibram Kendi speaking at Harvard University continued, “We are living in times when some people are constantly calling what is obviously harmful positively good, he said.” “They are lying and saying fossil fuels are positively good for the environment. They are lying and saying banning books is positively good for young readers. They are lying and saying police and prisons are positively good for Black, brown, and Indigenous communities.”⁹ The truth about the epidemic of gun violence in the US matters, but such truth is subverted by the gun lobby and gun fanatics. The most pervasive and ludicrous lie is that guns are a good means of protection. If this were true, the United States would be the safest country on earth. But while the United States has the highest rate of gun ownership in the world, followed distantly by a handful of undeveloped countries, “Age-adjusted firearm homicide rates in the US are 13 times greater than they are in France, and 22 times greater than in the European Union as a whole.

The US has 23 times the rate of firearm homicide seen in Australia.”¹⁰ Truth matters if we care about preserving our democracy. The January 6 insurrection in Washington DC was motivated by the lie that the presidential election of 2020 had been stolen. “The January 6 insurrection was the gravest assault on American democracy since the Civil War, and it came much closer to disrupting the peaceful transfer of power (and possibly our democracy itself) than we realized at the time.”¹¹ As reported in the journal of the non-partisan Center for American Progress, the former president’s “unprecedented attempt to hold onto presidential power by any means necessary was deeply un-American, corrosive to democracy, and an affront to the rule of law.”¹²

The consequences of knowledge as an expression of true belief are as profoundly positive and beneficial as the consequences of fallacy are negative. A stunning and highly consequential example in medicine is the progressive discovery of the truth, the accurate nature of the physical reality of children with leukemia. As late as the mid 20th century, children diagnosed with leukemia rarely lived longer than 3 months. According to the National Academy of Sciences, 80 percent of childhood leukemias are now cured and over 30,000 lives have been saved.¹³ This remarkable achievement of medicine was not fueled by a single breakthrough but rather by a chain of knowledge events, cumulatively leading to treatments that restore children to health. The initial insight in non-surgical intervention to treat cancer, based on knowledge about cells from a series of basic science discoveries in the late 19th and early 20th centuries, was that interfering with reproduction in cancer cells can inflict disproportionate damage from which they sometimes don’t recover. The next step in the knowledge chain was the discovery of the role of enzymes as the crucial proteins that drive chemical reactions in cells and affect function, including cellular reproduction. Scientists learned that the interaction of enzymes and chemicals within a cell resemble a lock-and-key

mechanism, progressively unlocking sequences and enabling completion of chemical reactions and activating functions. Researchers also came to know that the introduction of certain chemical compounds that looked like or mimicked a key could jam or stop chemical reactions and interfere with vital cellular functions in cancer cells. Knowledge about specific chemicals that interfered with the functions of cancer cells converged with knowledge about how to demonstrate and prove the effectiveness of these chemicals in the laboratory. Targeting specific diseases through intentional and rational drug design led to early application of chemotherapy in children with leukemia with little success; with no other treatment options, however, the children had nothing to lose.

With the discovery of the DNA molecule, scientists came to understand how cell division occurs and to understand more fully how blocking cells from making new DNA bases could cause cancer cells to be unable to reproduce. Possessing new knowledge about cellular processes, signaling pathways and chemical reactions, new chemicals were synthesized that showed promise in the laboratory and in animal models. New compounds were given to children suffering from leukemia and some rare and brief remissions were achieved. Further synthesis of promising compounds produced two drugs that consistently brought about remission, although lives were only extended from 3 months to 1 year in most cases. Additional knowledge was needed about combinations of drugs, dosages, and frequency. In the mid 1950s, the state of the art of conducting clinical, chemotherapy trials, including the concept of the double-blind study, was greatly advanced. New trials enabled answering questions pertaining to combination, dose and frequency as well as measuring the effects of transfusions of blood platelets and other treatment options. Remission became routine but the cancer returned in most cases. Ongoing laboratory research led to the knowledge that only a

single leukemic cell was required to restart the fatal process. The final step in the knowledge chain was the identification of the brain and spinal cord as hideouts for the dangerous cancer cells. Direct injection of drugs and target radiation proved to be successful in killing even the smallest number of residual cancer cells. The combination of treatments, the two drugs discovered and developed early in the process and new drugs have produced a very high cure rate and the promise of a normal, healthy life for thousands of children.¹⁴

Without truth there is no justice. The phrase “Justice is truth in action” is attributed to the British Prime Minister Benjamin Disraeli and expresses this fundamental relationship. For Socrates, justice is inseparable from an ethical commitment to truth. Justice is a universal good. Classically, justice was counted as one of the four cardinal virtues along with prudence or exercising good judgment, temperance or self-regulation and fortitude or determination and courage. John Rawls, arguably the most important political philosopher of the 20th century, famously described justice as the first virtue of social institutions.¹⁵ The features of the Civil Rights and Voting Rights Acts as consequences of the Civil Rights Movement of the 1950s and 60s, if imperfect, reflect the beginning of justice for Black Americans and are deeply significant and a positive good. They achieved citizenship rights for African Americans, which included freedom of movement, access to public accommodations and education, especially higher education. It included the right to vote by sparking legislation that removed the barriers to voting, thereby opening the door to black participation in political life, in the South and throughout the country. The black middle class, through improved access to the professions, fared best and is now moderately represented among lawyers, teachers, doctors, and other professions. In 2008, a Harvard trained, African American lawyer and community organizer was elected President of the United States. What had been known as scientific

racism, the pseudo-scientific belief that people of African ancestry are inferior, and that empirical evidence exists to justify racism, had been thoroughly discredited. From genetics, we then knew that there is no scientific basis for the differentiation of human beings based on skin color or geography of ancestry.^{16,17} From evolutionary biology and cultural anthropology, the oneness of the human family had become a well-established reality. It is hard to dispute that the *truths* of the common human nature of all people, the centuries of abuse and brutality experienced by Black people, and an active conception of ethical or moral reality preceded the justice reflected in the civil rights legislation of the mid 1960s.

Will we align our beliefs with reality and change our behavior in the future? Will we reconstruct our flawed and broken economic, governance, health, and environmental systems to support and enhance the common good? Will we shift from fossil fuels to renewable sources of energy and keep our planet livable? Will we reverse the slide toward anti-democratic norms in countries around the world? Will we mitigate inequality and attendant suffering? Will we confront racism, fear of the other, and xenophobia and make life better for all people? Will we take control of weapons of mass destruction to save us from ourselves? Will we adapt to evolving realities? We don't know the answer to any of these questions. What we *do* know is that in the absence of truth, we have no chance to answer 'yes' to any of them. It is a simple and undeniable fact that commitment to truth underpins any effort to overcome ignorance, fallacy, obfuscation, propaganda, and a culture burdened with disinformation.

We have argued that truth is undervalued and misapprehended and becoming further diminished in the current media and political environment. With the aims of bringing about a heightened awareness

of why truth matters and how to discover it, we have taken comprehensiveness to be a core requirement of the project. In terms of scope and depth, our approach is to systematically examine the truth intrinsic topics of *reality*, *belief*, *knowledge* and *truth* itself with a pragmatic focus and to interweave insights from philosophy and how these converge with truth related perspectives from sociology, cognitive and social psychology, anthropology, physics, evolutionary and computer sciences. This approach defines the structure of the book:

Reality – Any truth pertains to some natural phenomenon or object, social or cultural circumstance, event, relationship, idea, or proposition; to seek the truth is to seek the true and accurate character of some reality. The character of reality is variable, from that which is natural to include physical objects and phenomena (molecules, bridges, radiation, planets) to reality mediated by human beings to include money, property, politics, culture, morality, justice, and beauty. Reality is also variable in terms of scale from the subatomic or quantum world, to what we recognize as human scale to the cosmos to include our own and other galaxies.

Truth – For any belief or proposition or account, truth is the property of being in accord with reality. Rather than simple and uniform, truth is nuanced and multi-dimensional – truth is objective and independent, truth exists in degree from probable to virtually absolute, truth is present in the wholes of phenomena as well as in constituents, what makes something true varies by the character of the reality in question. Theories of truth reflect the conditions to be met to confer the status of true (absolutely or probably) on a belief or an account of reality.

Belief – Truth is a state of being; belief is a state of mind and the primary driver of individual and collective behavior. Beliefs may be true or false; truth, therefore, is a potential property of belief. The dimensions of belief include the character or essential attributes of belief, the dynamics or the forces and variables of growth, change and activity and the ethics of belief and believing.

Knowledge - In a purely practical sense, this book aims to explore how we can more effectively form true beliefs and avoid the consequences of believing falsely. Knowledge exists at the dynamic intersection of reality, belief, and truth. Knowledge relates to the ‘how’ of forming and justifying true beliefs, the ‘how’ of knowing, the ‘how’ of seeking the truth and confronting the corruption and threats to truth.

The core themes that emerge in this book are:

Truth matters profoundly - Truth is sometimes costly, complicated, often uncomfortable and frequently painful. Truth matters, however, in the most profound way – our thriving and surviving literally depend on our living in accord with truth.

Objective truth exists and prevails - It is an evolutionary fact that objective reality exists and that truth, as believing and behaving in accord with reality, exists and will ultimately prevail! "We are what works within the properties of this universe." These words attributed to the Astrophysicist Neil deGrasse Tyson essentially mean that our existence as humans, with all our biological and cognitive abilities, is a direct result of the fundamental laws and conditions that govern the universe; we are a product of the cosmos, shaped by its properties, and therefore, our very being

is a testament to what "works" within its framework – to the truth of our conformity with reality.

Truth is pluralistic - The meaning of pluralism as an aspect of the nature of truth is that there is more than one way of making something true. This variability is an effect of the variable character of reality and the awareness that truth exists in the range of the probable to the near absolute.

Truth and belief are not the same - Belief is the fundamental restraint on truth. What we believe determines what we do. A belief may be true or false but its influence on human behavior is the same. We have a moral obligation to confront ignorance and dishonesty and false beliefs.

Discovering truth is possible – At its core, this is a book of practical philosophy. It explores truth in its varied dimensions and manifestations, why it matters, and how forming and living consistently with true belief is not only an existential imperative but possible, given sufficient motivation, disposition, and skill.

Truth is a choice - Ignorance and fallacy will take us to dark places. Truth matters deeply and, beyond our institutions, our culture, our leaders, our technology, *we* are our last hope - the end of the road is us. We must demand truth from our politicians and institutions, we must demand truth from business and the media, we must demand a truth standard in social media and the application of technology – as individuals, we must hold truth dear and choose it. Seeking truth as a choice is a call to action for each of us!

The rationale for this project is expressed as seeking to play a part in addressing the questions asked by Salman Rushdie in his article Truth,

Lies and Literature in The New Yorker. Paraphrasing Rushdie, how do we defend *things that are so* from the attacks of *things that are not so*? How do we combat the worst aspects of the Internet, that parallel universe in which important information and total garbage coexist, side by side with apparently the same level of authority, making it harder than ever for people to tell them apart? How do we resist the erosion in the public acceptance of “basic facts”, scientific facts, evidence-supported facts about climate change or inoculations for children? How do we combat the political demagoguery that seeks to do what authoritarians have always wanted – to undermine the public’s belief in evidence, and to say to their electorates, in effect, “Believe nothing except me, for I am the truth”?¹⁸

This book is the intellectual and emotional place our work, research and writing has propelled us. This is coupled with the perception that truth is threatened and diminished in new and enlarged ways, the consequences of which can only be bleak for human society and the natural world. In our separate careers and in our joint consulting practice, we have been struck by how false beliefs, operating assumptions, and related behaviors out of alignment with reality, lead organizations down paths of folly and decline. And, in contrast, how true beliefs and related actions virtually always lead to success. Our management consulting practice, therefore, progressively evolved in the direction of organizational learning as a clear and passionate focus, with the growth of knowledge expressed as the evolution of cultures and strategies based on collective true belief as the essential goal. Our clients have been management, operations, research and clinical teams in hospitals, universities, global companies, and technology-based firms. Insights from our practice and research formed the basis of our three published books on the theme of management as an evolutionary art. With the focus on learning, these books move intentionally in the direction of truth as the guiding principle. It

follows that there is virtually a straight line from our practice and our earlier management-centered books to this one where the more general topic of truth itself emerges as an unavoidable and logical next step.

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