

CHAPTER I

Introduction

We live in an era in which advertisers, politicians, and other people whose desire to persuade exceeds their desire to do the right thing. They often are content to present fiction as fact, lies as truth, moral actions as immoral, and immoral actions as moral. Their goal is to blur or render useless the distinctions between these categories. In some places, George Orwell's 1984 finally has come true. Surveillance is pervasive, as in Xinjiang, China, where many people are constantly watched, and some are placed into so-called "reeducation camps."¹ Many other countries are going the same route, including the United States, where treatment of potential refugees is no better, and possibly worse.² The perversion goes right to the top in many countries, with presidents, prime ministers, various politicians, and phony "journalists" shading, and sometimes utterly ignoring, the truth with no compunction. Meanwhile, everywhere there are gullible citizens eager to indulge in groupthink and ready to believe whatever they hear from the sources they foolishly trust.³

We are living, as I write this book, in a time of a pandemic (March, 2020). Scientists have made clear what needs to be done to combat the pandemic. Politicians, including the president of my own country, are busily doing what they can to make the pandemic worse.⁴ They will not stand trial for the deaths they cause. What hope is there for people who want to see any kind of intelligence at all from their leaders, aside from whatever sliver of practical intelligence they use to calculate how to enhance their prospects of reelection?

This book is not about political beliefs. Politicians of all parties sometimes make mistakes and they also sometimes lie; so do advertisers and pretty much everyone around the world. Moreover, people have treated each other badly since as far back as humans go. Recently, a 5,300-year-old mummified body, nicknamed Ötzi, was found and identified as having died as a result of being shot by a bow and arrow.⁵ Humans have never treated each other all so kindly, Rousseau's optimistic view of human

nature notwithstanding.⁶ If, as Rousseau argues, it is society that corrupts human nature, we have to remember that society is merely the association of humans with each other – in other words, that, at best, human nature corrupts human nature. At its best, human nature can be positive and uplifting, rather than negative and corrupting. Human nature is positive and uplifting when it is adaptive rather than maladaptive to the circumstance it confronts, and sometimes creates in the world.

1.1 Intelligence as Adaptive Behavior

This book is about intelligence as adaptive behavior – adaptive intelligence. Political beliefs and actions can, and do, have a cost with respect to adaptively intelligent behavior. That cost has gotten greater because, whereas individuals of the past may have had to worry about a bow and arrow and some wild beasts, today, a single malevolent individual with some like-minded collaborators could, at least in principle, destroy every last person on the planet through the push of a button that launches nuclear weapons. There is a reason, evolutionarily, that humans (or really, any other species) have evolved to distinguish truth from falsehood and good from evil.⁷

Suppose someone tells you that they have a surefire investment and you should put a lot of money into it, perhaps your life savings. They convince you. It turns out they were lying. Moreover, they knew that you would go under financially as a result of their scam. You have now lost a ton of money. This happens all the time.⁸ Or perhaps someone tells you that they love you when they are only interested in your money, or in having sex, or in sending compromising photos over the Internet. This too happens all the time too.⁹ People lie when they sell used (and sometimes new) cars, jewelry that is not what it is cracked up to be, phony luxury goods, and much more. Each time people lie to you, you are at risk, and it is up to you to figure out the truth.

People think of those who fall for scams as gullible. But scams are no longer the property of just a few hucksters selling swampland in Florida as choice real estate with only “upside potential.” Scams are a constant presence in everyday life, whether on TV stations or other media that pretend to be independent but simply mimic the government line or in claims of anti-vaxxers that the measles vaccine is dangerous. In fact, measles is far more dangerous than the measles vaccine and can not only cause serious illness; it can also wipe out the child’s built-up immune protections – the child’s “immune memory” – against various diseases, resulting

in children contracting diseases against which they formerly were immune.¹⁰ What good is IQ or education if people do well on IQ tests and their proxies, go to prestigious colleges, and then allow their children, and possibly themselves, to contract a serious and possibly fatal illness because they are gullible?

Mere “gullibility,” I argue here, is no longer sufficient to characterize what is going on in a world in which sophisticated media blitzes by unscrupulous actors lead even generally “intelligent” people down ruinous paths. The Internet and social media have preyed upon everyone’s gullibility.¹¹ What is needed now is the kind of intelligence that will enable us to adapt to an environment that is very different from any in previous human history. High scores on IQ tests or their proxies, such as the SAT or ACT, are little consolation if one loses one’s life savings to a scam or if one allows oneself to be taken in by hucksters of any kind, whether in sales, investment, or politics.

We need to redefine what we mean by *intelligence* to enable us to understand adaptation to the modern world (or any other world), regardless of the pedigree people may have through their schooling and test scores. Today, what matters most is not IQ, but rather, adaptive intelligence – the ability to adapt to a rapidly changing environment. Without that real-world adaptive ability, IQ points do not matter. Similarly, emotional and social intelligence do not fully cut it. They too often are used for destructive ends: Someone could be very good at understanding how to use their emotional or social intelligence to prey on people whom we traditionally call “gullible,” but who now encompass much of the population of a world enchanted by would-be and actual dictators and purveyors of ideas that are leading humanity down a perilous path.

Some of the greatest lies in modern society concern issues of truly great importance. For example, some politicians and columnists falsely, or at best, ignorantly claim that global climate change is not a threat, or at least not a serious threat.¹² Maybe some of them – probably not many – even believe they are telling the truth. They also may believe or say they believe that coal, ultimately, is a good energy source for current times.¹³ People believe all sorts of things. People gained a lot of weight when they were told, falsely, that the main cause of obesity was fats rather than sugars in the diet, a lie that only recently has been corrected.¹⁴ Similarly, you would not want someone to lie about whether there are dangerous snakes in an area, or sharks in the water in which you will swim, or human predators lurking nearby. What good is IQ if one falls for the nutritional or other lies that can kill them and others? People are worried about postponements of

standardized tests while society is failing the most important test of all – adaptation to the real environment, not the contrived and trivial ones of standardized tests. What is adaptation if not the survival not only of the individual but of humanity and of other species as well?

1.2 Adaptive Intelligence Perpetuates a Species

I argue in this book that one of the most serious falsehoods permeating our society is the belief that standardized tests of intelligence and related attributes – IQ tests, SATs, ACTs, GREs, most standardized achievement tests, and the like – are good and somehow highly meaningful and comprehensive measures of intelligence and what emanates from it. The relevant argument is simple. On the positive side, we have many conveniences in modern life that have been made possible by the cleverness of inventors of various kinds. On the negative side, evolutionarily, our first responsibility is to care not only for our present generation but also for future generations – we are here to create our successors. Intelligence is not about problem-solving on a contrived standardized test; it is about problem-solving in the real world.

Many psychologists studying intelligence have engaged in a remarkable false turnaround with regard to what predicts what. Intelligence tests were originally designed to predict real-world performance. The test scores were useful only to the extent they predicted such performance. The testers have turned things around to make the IQ, or the score on some other test of general intelligence, the criterion. The IQ has become, to them, more important than whatever it is that the tests are supposed to predict. If you read through my own edited *Cambridge Handbook of Intelligence*, you find, in case after case, investigators who have done very solid scientific work on intelligence validate the work on the basis of the extent to which it is consistent with the notion of intelligence as IQ, rather than the notion of intelligence as indicating what kinds of problems people can solve in their lives. What good was the presumably high IQ of a political leader who is also a medical doctor when he went about his busy social life interacting with other people while waiting for his COVID-19 test result, which came back positive, meaning that he exposed many of his friends to the risk of illness caused by the virus?¹⁵ Is intelligence about the doctor/senator's IQ, or is it about his failure to protect both himself and his colleagues and friends from a potentially deadly disease? Does intelligence have nothing to do with how we care for ourselves and others, including future generations? Is it just about solving tricky but ultimately trivial puzzles on tests?

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It is hard to claim we are adequately caring for our successors when 95 percent of baby foods tested in a recent assessment were found to contain toxic metals, such as arsenic, lead, mercury, and cadmium.¹⁶ That scarcely gives babies a just lease on their new lives. Of course, we could blame the baby-food manufacturers, but the problem is not just with baby food. It is with many children's foods, including even ones we have thought to be healthful, such as oats (which contain glyphosate, a possible carcinogen)¹⁷ and rice, used in a variety of cereals but often containing arsenic. In particular, the US Food and Drug Administration found that contamination of baby rice cereals by arsenic has reached what only could be called unacceptable levels: 104 ppb in infants' dry white-rice cereal and 119 ppb in infants' dry brown-rice cereal.¹⁸ Why is society allowing such contamination?

We do not know exactly what is causing worldwide declines in fertility rates. In 2018, the United States, for example, had its lowest fertility rate on record.¹⁹ It is tempting to blame this, and everything else that goes wrong, on the great recession of 2008, except that the recession happened more than a decade ago and the economy in 2019, when the article was written, was thriving. Future generations are in trouble. We are poisoning ourselves and our children and creating a world that is not viable. Right now, as I write, Sydney, Australia, is bathed in smoke from wildfires²⁰ and the air in Delhi and other cities in India and elsewhere continues to be practically unbreathable.²¹

By 2050, the world will be in serious trouble for climatic reasons as well as food and water challenges. Already, more than 110 million people live in areas that will be below the high-tide line in 2050.²² The projected population by 2050 is 9.8 billion, compared with less than 2.6 billion in 1950. This is an increase of 7 billion, or roughly 377 percent in just a century. With land disappearing under water and many parts of the world becoming uninhabitable because of rising temperatures, how are we going to feed these people? What will happen when major parts of large countries get submerged under water? How will they handle, despite the flooding, lack of potable water? The world of the future, and in some places the world of the present, faces a serious water crisis.²³ If humans are such an intelligent species, how could they let this happen and what are they going to do about it? What will people do about areas that become too hot to live in? Whatever people's so-called general intelligence, what about their intelligence as the ability to adapt to the environment – their adaptive intelligence? Just to be clear: These issues are not about environmentalism or do-goodism or political movements, such as the "Extinction Rebellion."

This is about survival, of the individuals and societies of today but, more consequentially, of all future generations. Can we really afford the luxury of pretending that IQ tests and SATs and ACTs measure what is important when we are killing ourselves and our future? That is not a matter of political views; that is a matter of adaptive intelligence versus mass suicide. That is a matter of letting go of our mental servitude to standardized tests and becoming real about the intelligence we need to survive and thrive, individually and as a species.

Some might think that the slow-motion suicide of humans, taking many other species with them, much as does a drunken driver who drives his or her family into the sea, has nothing to do with intelligence. This is what I ask readers of this book to consider, or reconsider.

A reader of this book indicated in his review that he did not accept the notion that humans somehow are committing mass suicide. That is, perhaps, because we are used to thinking of suicide as something done individually and quickly. People shoot themselves, or take poison, or jump off a cliff. But suicide does not have to be individual and it does not have to be quick. If people, collectively, destroy the water they drink, the air they breathe, the climate in which they live, they are doing collectively and slowly what a person may do individually and quickly. The ultimate effect is the same. Not every individual will die; but most suicide attempts are not successful either: Fewer than 10 percent of attempts succeed.²⁴ Humans seem to be much better at seeing short-term consequences for individuals than long-term consequences for either individuals or collectivities. They avoid thinking sufficiently about the long-term future. But that is a flaw in their intelligence: To be adaptively intelligent, one must look not only at the short-term, but also at the long-term, as illustrated by the tragedy of the commons.

1.3 The Relevance of the Tragedy of the Commons

Start with the so-called “tragedy of the commons.” The traditional presentation of the tragedy is in terms of cattle grazing on a common, say, in colonial New England (in the northeast of the United States). The common supplies the main source of food for the cattle. If all the farmers who own the cattle share the grass plot equitably, there will be enough grass to go around.

Inevitably, some clever farmer will realize that if he (it typically was a “he”) allows his cattle to graze on more than their fair share, then his cattle will be fatter than the cattle of the others and hence will be worth

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more at market. So, inevitably, some of the farmers have their cattle “overgraze.” These farmers may feel guilty about what they have done, or they may not – their cattle will be worth more! But then other farmers start to notice what is going on. They do not want to be in a situation where, because of the selfishness of others, they are deprived. So, they now allow their cattle to overgraze. Eventually, the outcome is certain. The grass will be depleted, none of the farmers will have grass available for their cattle to graze, and it will be every man for himself, with many, if not most, of the cattle dying for lack of food. The tragedy of the commons is that what is clever at the individual level in the short term is tragic at the level of the group in the long term – hence the name, “tragedy of the commons.” How intelligent were the farmers, really? Their individual intelligence resulted in a long-term loss on account of a short-term gain.

If the problem of the tragedy of the commons were limited to cattle in colonial New England, the tragedy of the commons would be an interesting but quaint problem. But of course, the problem is much broader than that. Consider the Brazilian rain forest, which under President Jair Bolsonaro, is being depleted at a greater rate than ever before.²⁵ The reason for the depletion is simple. There are, as in the above example, short-term gains – more farmlands, trees for which the wood can be sold, increased land for homesteads, and so forth. But the world, including but not limited to Brazil, depends on the Brazilian rain forest for many different things, most notably, the absorption of carbon dioxide by the abundant trees and plant life. In a world where carbon dioxide is increasing at an alarming rate, that is no small deal. But the tragedy of the commons is playing out as I write, and carbon levels in the atmosphere are increasing at unprecedented rates.

Of course, it gets much worse, because the mentality of the Brazilians under Jair Bolsonaro is not all that different from the mentality of those under leaders of many other countries, including of the United States (at least in current times).²⁶ Now imagine a slightly different situation extending the idea of the tragedy of the commons.

Seven-and-a-half billion people are sharing a common planet. They have used the planet not only for food but also for other resources that the planet has provided – petroleum, natural gas, diamonds, precious metals, rare earths, and on and on. If they took care of those resources and their own population growth, the planet would provide them with resources for many years, indeed, many decades or even centuries, to come. But like the clever farmer, some saw ways to advantage themselves over others. They did not take just a little more of the metaphorical grazing

“grass” but a whole lot more of it. Meanwhile, others took almost none of the metaphorical grass. In a few cases, it may have been through their own lack of cleverness, but in many cases, it was because they happened to be born at the wrong time or in the wrong place, or both, or of the “wrong” parents, at least with respect to having opportunities. So, some – think of the children of the ultra-rich – had to do very little to get a lot of the resources whereas others, no matter how they tried, could get scarcely any at all. This raises the question of what we mean by merit in our society.

1.4 Whose Merit, and What Kind of Merit Anyway?

Eventually, the have-nots came to realize that the system was stacked against them. Some were so downtrodden that they could do nothing. Others, throughout various periods of history, revolted. In the United States and many other countries, we are in a second Gilded Age, and who knows where that will go?²⁷ What is clear is that something is wrong.

As a university administrator (university dean, then provost, then president), I got to witness a part of this wrongness on almost a daily basis. High school students would apply to the universities in which I held administrative positions. For many of them, admission was solely a merit-based proposition. But whose merit? Theirs? Or their parents'? And what kind of merit? Beyond those admitted for academic merit, there are those who are admitted largely because their parents have donated a lot of money, those who are admitted largely because they have relatives who went to the university, those who are admitted because they took up sports that are limited largely to students from wealthy families (e.g., golf, water polo), those who are admitted largely because their parents were able to afford expensive college counselors or tutors, and on and on. The kids do not have to get extra resources; neither do their parents. It may be enough that the parents inherited money, which itself may have been inherited. For them, their IQ or general intelligence or whatever does not matter much; they are taken care of.

1.5 Diminishing Importance of IQ

So, let us return to the tragedy of the commons as a metaphor for much of what is wrong with the world today and change the circumstances just a bit. Imagine that, instead of cattle sharing a pasture, the commons problem was changed to humans sharing a world. One possibility would be for each human to maximize his or her individual gain, much as do

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farmers contributing to the tragedy of the commons. The result would be the same as that of the tragedy of the commons. Or, instead, people could try to maximize their joint outcomes. They could, but for the most part, they do not. On November 4, 2019, the United States pulled out of the Paris climate agreement.²⁸ One day later, more than 11,000 scientists warned that the world faces a catastrophic threat from global climate change, essentially beyond most people's imagining.²⁹ The crisis will involve not only rising temperatures but a cascade of events that will make the Earth unlivable for many, and only marginally livable for many more. As the article points out, such warnings have been published by scientists for many years and largely have gone unheeded.

Meanwhile, the results of climate change are to be seen in many locations, as those who have been forced to evacuate their homes for various reasons, such as wildfires and hurricanes, know. Really, what difference do IQs make if they do not lead to sufficiently responsible behavior that people will leave a decent world for their children and grandchildren to live in, much less, for them to live in? The effects of climate change, for example, are being and will be experienced by many of today's adults, but the most adverse effects will be upon their children.³⁰ Are we really that inconsiderate and uncaring of our children and our children's children? Are we that greedy? That stupid? That adaptively unintelligent?

I argue in this book that we have badly misconceived intelligence, to the benefit of the already benefited and to the detriment of practically everyone else. It is not surprising, perhaps, that any group that controls society seeks its own benefit. It may be pathetic, but it is not surprising to find high-IQ individuals grasping at the IQ straw in the same way royalty once grasped at the royalty straw, white people have grasped at the white-people (supposedly advanced-civilization) straw, and rich people historically have grasped at the money straw (as in, "if I'm rich, I must know what I'm doing").

Suppose that, to be admitted to the top universities in a country, one only had to be tall. (We could use any arbitrary criterion in place of height, such as wealth, eye color, or skin color). Now, the top universities choose to admit undergraduates on the basis only of height. They admit graduate and professional students on the same basis, except that the requirements are even more stringent. The universities do not even have to say that they are admitting by height. They only have to believe that height matters, ask applicants and recommenders about height, and advertise in magazines and elsewhere how tall their students are. They could claim to admit

“holistically,” but everyone would know that it is a weak cover for admitting by height.

After some number of years, tall people absolutely would dominate the student bodies of the most prestigious universities, especially at the graduate and professional levels, where admissions criteria are the most stringent. The top firms in the country, some of which only bother to recruit at the “best” colleges and universities, would now be looking for tall people. It would not matter that height was irrelevant to actual performance. If people believed that height matters greatly, they would give people all sorts of advantages that would multiply the advantages tall people experience anyway throughout their lives. (And in fact, tall people do have an advantage!)

Eventually, tall people would come to dominate positions of power and wealth in society, much as do high-IQ and wealthy people today. Those people never, ever would attribute their success merely to their height, or, for that matter, to the genes they inherited from their parents. They would know that, yes, they were selected for their height, but that height had proven to be a true predictor of success.

In fact, the environment was set up to make this come true. The high correlation between height and success was created by humans, not ordained by nature. Once people believe that tall people, or rich people, or people of a certain religion or ethnicity or caste or skin color are better, humans will reshape the environment to perpetuate their belief and turn it into a self-fulfilling prophecy. Then a corps of behavioral scientists trying to justify their own success, no matter how great or pitiable it might be, will do a slew of mindless correlational studies showing that height (or race, or wealth, or IQ, or whatever) is correlated with success, thereby “proving” that the trait actually mattered to success. In fact, it will have mattered, but in large part because people shaped the world to make that belief come true. They gave the lion’s share of the opportunities to tall people, so tall people succeeded and came to believe in their tallness as causal to their success. It was causal, but only because people believed it to be and thus made it to be. In the United States, at least, zip codes separated by a city block or two, or even within a city, can spell the difference between great chances of societal success and hardly any chance at all. But those in the wealthier zip codes probably attribute their success to their herculean efforts, not to the correlates of the zip code in which they live.

This book will examine how our faulty notions about intelligence have shaped the societies we live in, and why a seemingly new, but actually, very old notion of “adaptive intelligence” is a much better way to think about