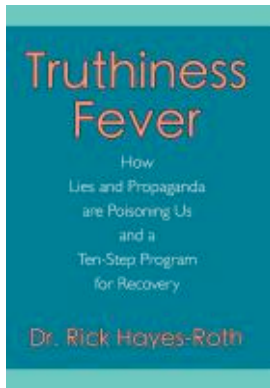


Truthiness Fever

How
Lies and Propaganda
are Poisoning Us
and a
Ten-Step Program
for Recovery

Dr. Rick Hayes-Roth



This book focuses on truth, beliefs that best match empirical evidence. Truth contrasts with truthiness, beliefs supported primarily by emotions and feelings. When political satirist Steven Colbert celebrated the rise of "truthiness," he called attention to an important pathology in our body politic. Politics, broadcasting, and business as usual are poisoning the information environment. The author's scholarly research shows how bad things have become, but then he proceeds to prescribe a 10-step recovery program.

Truthiness Fever

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Truthiness Fever:

**How Lies and Propaganda
are Poisoning Us
and a Ten-Step Program for
Recovery**

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About the Author

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Dr. Hayes-Roth has written more than 100 published papers and co-authored four other books, *Building Expert Systems*, *Pattern-Directed Inference System*, *Radical Simplicity: Transforming Computers into Me-Centric Appliances*, and *Hyper-Beings: How Intelligent Organizations Attain Supremacy through Information Superiority*. He’s held faculty positions at MIT, Stanford, and Carnegie Mellon, as well as NPS. He’s a Fellow of the American Association for Artificial Intelligence, a Senior Member of the IEEE, and a member of the Association for Computing Machinery.

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Preface

This book should crystallize your cynicism. You, your friends, your children already discount most of the information you hear or read that is presented as fact. You have come to believe that nearly everyone is lying, governments and businesses use giant megaphones for propaganda, and that only a fool would expect the media to be constrained to truth telling. Are your perceptions correct, and has it always been this bad?

The old saw that “perception is reality” may make those questions moot. If people don’t believe what others say or assume that most statements are lies, we have destroyed the foundation of trust, progress and civilization. Civilization, of course, rests on an ability to transmit knowledge from one generation to the next. Knowledge, in this context, means facts and beliefs that enable one to understand, predict, control and adapt to reality. While some non-factual beliefs can help you tolerate poverty or overlook pain, those ideas don’t make food more affordable, clean water more plentiful, or energy use sustainable. Facts and truth fuel the engine of human progress.

This book focuses on *truth*, the set of beliefs that best match empirical evidence. It contrasts truth with *truthiness*, beliefs that derive their support mostly from emotions and feelings. When Steven Colbert, the television political satirist, celebrated the rise of “truthiness,” he called attention to an important pathology in our body politic. Over the past decade, it has become increasingly common and acceptable for public figures to boost whatever beliefs they feel will help their cause. Commitments to facts or credible evidence no longer seem necessary. In a world without such standards, our children grow up in an overwhelming information environment that’s harmful and misleading. We are poisoning their information environment as dangerously as sugary foods ruin nutrition and toxins pollute air, water, and soil.

Over time, societies come to recognize pollutants and eventually organize to regulate or eliminate them. Lead and mercury were used for centuries before they were largely outlawed. Dumping industrial waste directly into public rivers similarly ended after decades of disease. Over the last few decades, we began to limit smog-producing gases, acid-rain components, and asthma-inducing particulates from our air. For the last decade, we have collectively been emotionally and cognitively struggling with the fact that rising levels of atmospheric carbon dioxide lead directly to rising global

temperatures which, in turn, have already killed forests, wiped out glaciers, and will soon inundate low-lying islands and coastal areas. Whether we can learn to accept these facts and incorporate them into public and personal policies remains unclear. Adaptive responses are probably required soon to mitigate damages and avert catastrophe.

In dealing with existential threats, human beings seem to go through a typical process, assuming that they respond in time. First, they detect their changing situation, but don't immediately perceive it as a problem. Eventually, however, they see the situation as problematic. That leads them into a problem-solving orientation, and they ask: "How is this happening? How can it be stopped?" Then, a competition ensues between the people who want to upset the status quo by fixing the problem and the people who oppose change. Why would people oppose fixing a problem as serious as pollution? The answer is simple: often the status quo produces profits for them. In addition to those who directly and mindfully profit, others resist change for different reasons. Some of these work, ally, or affiliate with the vested interests. Some share tribal, social, commercial or political bonds. Some don't like change. Some distrust new ideas and the people who embrace facts rather than emotions. Finally, many people merely accept the views expressed by those with vested interests in maintaining the status quo, never questioning the factual basis for those views. So facts and truthiness compete for human loyalties.

In the information age, our survival depends on an ability to use facts effectively. Unfortunately, much of the media and content we encounter comes from vested interests that have no incentive to tell the truth. Lacking such an incentive, corporations and politicians, for example, naturally pursue aims that align with their actual incentives. Usually that means they seek to appeal to vested interests who can pay them or contribute to them or help maintain their power and status. In short, we have a system that is perfectly designed to keep itself entrenched in spite of the truth. Positive feedback helps us auger in, faster and faster.

Lying is an age-old problem. In the information age, we have brought powerful modern technology to bear, so we can amplify liars' productivity and impacts. Through 24X7 tailored communications, we can carefully target individuals with "news" and infomercials that appeal to their tastes, while reaching even larger total audiences. While small-scale pollution usually has negligible effects, large-scale pollution usually leads to devastation. We have

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reached a point where we cannot continue with business as usual, where lying is the norm, and liars profit by lying.

For humanity to progress we must embrace the competition between truth and lying at all levels, from personal, to corporate, to political. We must create new incentives and organize new groups and methods to make those incentives pay. Liars must lose. Truth telling must win out.

With this book, I hope to lay out the situation and energize some practical efforts to change our positions, moving from a powerless cynicism to an active problem-solving *can-do* attitude. We cannot solve this problem by continuing the practices that created them, as Einstein famously observed. We can, however, change the rules of the game by which liars profit. Our recovery starts now, and we must hope we're up to the challenge.

— Rick Hayes-Roth

April 2011

1. Introduction: Information Pollution May be Our Greatest Risk

*“I don’t know who discovered water, but I’m sure it wasn’t a fish” –
Anon.*

*“Ordinary people may not welcome a future spent swimming in an
unending flood of information” – Freeman Dyson²*

*“If you only follow this one rule,
Listen to me please don’t pee in the pool” – Bryant Oden³*

Humanity as we know it, the world of *Homo sapiens*, depends on breathable air, potable water, edible food, and truthful information. Nations around the world have recognized the importance of protecting air, water and food. But, incredibly, the pollution of the information environment is allowed to increase unchecked. *Homo sapiens*, the category of primates we are, means the “wise man” or the “knowing man.” If it’s true that “you are what you eat,” it’s doubly true that your humanity reflects the information you consume, believe, and act on. Consumption of lies and propaganda poison your mind and threaten your survival. Because all humanity consumes and acts on information mostly generated and disseminated by powerful vested interests, our collective welfare fundamentally depends on the truthfulness of that information. There is considerable evidence that truth is a perishing commodity, and that major changes will be needed to reverse that trend and forestall enormous negative consequences.

As fish swim in water, humans swim in information. Our children now study for more than 20 years to become entry-level workers and citizens. As adults, we continue to read and study, to improve our economic potential and exercise adult responsibilities. Almost every important decision adults make depends on the quality of information they consume. Should I vaccinate my children and myself? Should I drive after one or two drinks? Should I contribute to charity? Should I support the current war? Should I boycott non-union growers? Should I consume toothpaste with Chinese ingredients?

² “How We Know,” *The New York Review of Books*, March 10, 2011.

<http://www.nybooks.com/articles/archives/2011/mar/10/how-we-know/>

³ “Please don’t pee in the pool.” www.youtube.com/watch?v=P5om694_E-Y

Should I purchase drugs via the Internet? Should I vote for a political candidate based on his ads? Should I trust nuclear power or what TEPCO says about their Fukushima Daiichi reactors⁴ after the 2011 tsunami? Can I believe what BP says about the Deep Water Horizon oil spill, and can I even trust what the government says⁵ when they seem to be in bed together? The list of vital questions is quite long. Fortunately, we humans can consume a lot of relevant information and make reasonable decisions even with incomplete information or uncertain predictions.

Unfortunately, we can't tell which information we receive is true, and increasingly much of it is not. Many people lie, and that has been true through the ages. But there's evidence that lying is becoming more common and widespread. Major corporate scandals over the last decade, such as the Enron and Lehman Bros. collapses, have revealed business cultures where profit and greed trumped all other social values. The sociopathic behavior of corporations has become commonplace.⁶ In addition, news media have increasingly been taken over by major corporations that measure success in terms of audience ratings and profits, so lofty journalistic values vanish. Citizens around the world routinely distrust their governments. Even before the major 2011 quake, tsunami, and nuclear reactor disasters in Japan, the Japanese government had an approval rating below 20%. The people didn't trust what the government said and cynically assumed those in power were primarily concerned about maintaining their own status.

Capitalism and Politics Favor Liars and Reward Lying

We live in a system that requires money. If you are born wealthy, you don't have to work hard to eat, but you will likely spend much of your life worrying about preserving and increasing your holdings. You might reasonably devote some of your wealth to resist efforts to make you relinquish money through taxes or pay more through regulation. If you are not born rich

⁴ See for example their "Press Release", March 12, 2011, <http://www.tepco.co.jp/en/press/corp-com/release/11031203-e.html>. Over time it became clear, their reporting could not be trusted.

⁵ M. Schleifstein, "Public doesn't trust government to respond to BP environmental damages" in *nola.com*, March 22, 2011, http://www.nola.com/news/gulf-oil-spill/index.ssf/2011/03/public_doesnt_trust_government.html

⁶ "The Corporation," a documentary film directed by M. Achbar and J. Abbott, 2003. <http://www.imdb.com/title/tt0379225/>

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like most of us, you will see your parents struggling from paycheck to paycheck to put food on the table, take a rare vacation, and send the kids to college. It doesn't take very long to discover that most of your waking hours will need to focus on getting money yourself.

In a capitalistic system, the more money you have, the more power you wield. With money, you can choose how to allocate your time and efforts. You can buy luxuries, take vacations, and study topics of interest. You can employ people to do work for you, and you can pocket the profits that business ownership distributes to shareholders. With enough money, you can influence the outcomes of elections, gain access to public officials, and lobby for favored treatment in regulations and legislations. Those behaviors are typical and rational. Politicians need money for campaigns, so they naturally seek support from those most willing and able to contribute. That brings them to the rich and powerful, who naturally choose to help those who can repay the favor through special considerations such as tax reductions and special exemptions.

In the game of selling, whether it's soap or politicians, money enables sellers to promote products through advertising and public relations efforts. The basic idea is to "position" the product in a way the consumer will find naturally appealing and then to tell consumers specifically why they should "buy" the product. Positive ads explain how the product surpasses all others and practically performs miracles. Negative ads explain why the competing products can't be trusted and must be rejected. These messages must be delivered to large numbers of consumers to have a desired impact. This costs millions of dollars ordinarily. Thus, much of capitalism and politics aims to sell products through expensively distributed messages crafted to be as persuasive and motivating as possible.

Lying is a particularly effective way to deliver persuasive and motivating messages, and it's also cheaper than doing the hard work that truth would require. You can claim your product is best, just by saying so. You can claim your opponent is untrustworthy, just by saying so. In most areas, businesses and politicians are free to lie, and they do. It's effective and cheap, the very definition of highly productive.

We live in a world dominated by global corporations and super-rich plutocrats, who have virtually unlimited resources and an ability to control politicians and media. They want to preserve and increase their wealth and power. They have means, motive, and opportunity. They lie whenever it suits

their purposes. Encountering a lying politician or a lying business executive today isn't even noteworthy for most people. We know the game is rigged to help the rich and powerful do what they naturally do: whatever it takes to stay on top. The consequence of this is that we now swim in an ocean of polluted information, making us disregard and distrust most of what we hear.

Civilization Depends on Truthful Information

Progress of humanity, as measured by economic prosperity, elimination of debilitating disease, increase in human lifespan, literacy rates, mobility and freedom, has followed a mostly upward trend throughout the historical period. History itself, a record of our story, depends on a reliable means of copying and retelling events. The very nature of information consists of an ability to transmit such details to one who doesn't already know them. Giving people information means enabling them to eliminate uncertainty and narrow their range of options, hopefully to those that accord with reality and best achieve their goals. So, obviously social progress, wealth, health and happiness are hugely influenced by the information we consume and which our parents consumed before us.

Useful verified knowledge, what we know that can help us, is what we mean by truth. Truthfulness is vital in many spheres and knowledge in these areas can take various forms. We seek truth in the form of facts, methods, techniques, laws, and theories that validly reflect the way things work in the world.

Why would people intentionally despoil the information environment, effectively polluting the sea we swim in? Simply stated, people would do it if they perceived incentives and didn't worry about the costs. Can you lie for power and profit? Obviously yes. Do increased concentrations of wealth and power concentrated in the hands of few people make this easier? Again, obviously yes. Are there significant disincentives that would keep people from lying and propagandizing? Unfortunately, no. As incredible as it may seem, our laws, regulations, and social mores do not effectively threaten liars, and so they lie for power and profit with impunity.

If we don't reverse the trends that make information pollution rampant and increasing, we cannot thrive as a species. We must galvanize efforts to highlight truth and filter our falsehoods, to remove the toxins from the information environment. This call to action is, on its face, non-partisan. There is no political party that includes in its charter or platform the intent to lie and propagandize. Nevertheless, political partisans, parties, action

committees and candidates routinely lie and propagandize, for the reasons already stated: they seek to win by any means possible, and they see little risk in telling falsehoods.

The Truth Does Not Belong to any Political Party

So truth is not and should not be a partisan issue. Truth is the friend of honest people who convey valid ideas to help others understand and adapt to reality. Truth is the enemy of corrupt people who convey lies and propaganda to manipulate and harm others. Lying, however, has increased in the political arena over the last decade. Stephen Colbert, in the debut of his satirical TV show *The Colbert Report*, highlighted a broad class of lying he called *truthiness*. Truthiness is a “truth” that a person claims to know intuitively “from the gut” without regard to evidence, logic, or intellectual examination of facts.⁷ By allowing truthiness to trump truthfulness, we cede our right to intelligent debate and decision-making. The most powerful, emotional, resonant voices prevail in all contests when facts don’t matter.

This book seeks to amplify Colbert’s observation to address the apparent plague of lying, a state of Truthiness Fever, where most people are either busy polluting the information environment or suffering the consequences of daily involuntary ingestion of propaganda substituting for facts. In a world where billions of people ingest the same information, manufactured by a small number of self-interested lawless polluters, we risk a global plague. This plague causes vast numbers of people to take inappropriate actions based on toxic beliefs. If we don’t clean up the environment, we can expect powerful interests to further manipulate and control the citizenry, and for increasingly cynical people to tune out information, becoming *Homo non-sapiens*. One can’t overstate the damage to human progress we risk if humans collectively distrust information, disdain knowledge, and disrespect expertise. Those pillars of civilization rest on trust, and by allowing people to undercut that trust, we risk a collapse of the culture.

⁷ “Truthiness,” in *Wikipedia*. <http://en.wikipedia.org/wiki/Truthiness>

When asked in an out-of-character interview for his views on “the ‘truthiness’ imbroglio that’s tearing our country apart”, Colbert elaborated on the critique he intended to convey with the word⁸.

Truthiness is tearing apart our country, and I don’t mean the argument over who came up with the word...

It used to be, everyone was entitled to their own opinion, but not their own facts.⁹ But that’s not the case anymore. Facts matter not at all. Perception is everything. It’s certainty. People love the President because he’s certain of his choices as a leader, even if the facts that back him up don’t seem to exist. It’s the fact that he’s certain that is very appealing to a certain section of the country. I really feel a dichotomy in the American populace. What is important? What you want to be true, or what is true? ...

Truthiness is “What I say is right, and [nothing] anyone else says could possibly be true.” It’s not only that I *feel* it to be true, but that I *feel* it to be true. There’s not only an emotional quality, but there’s a selfish quality.

Truthiness Fever Helps Sell

What then is *Truthiness Fever*? This fever refers to a rampant for-profit and for-power campaign to scare people, to create frenzied responses to fears, and to make them distrust “others.” Where propagandists and demagogues of earlier times may have been primarily focused on political power, political and commercial players both conduct these divisive campaigns today. Moreover, political and financial interests increasingly co-mingle and cooperate.

The Fox News Network illustrates many of these characteristics. As a news organization, it adheres to no conventional values of journalistic objectivity. It pursues commercial success through attracting and retaining a loyal audience, which enables it to earn predictable and high sponsorship dollars from advertisers. As with any successful media enterprise, it focuses on its target demographic, meaning that it supplies product to its customers

⁸ N. Rabin, “Interview: Steven Colbert” in *The Onion, A.V. Club*, January 25, 2006, <http://www.avclub.com/articles/stephen-colbert,13970/>

⁹ Variants of this quotable saw are attributed to financier Bernard Baruch, Secretary of Defense James Schlesinger, and Senator Patrick Moynihan.

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that they like. Not all customers like the same things, so any company producing media content won't succeed unless it continually delivers product its customers enjoy. Fox News can be characterized by the customers it keeps, and their tastes and values will predict what it delivers to them in the form of product. Being very successful at what it does, Fox closely aligns the products it delivers to the preferences of its audience.

Fox, as will be true of any media company, produces information products, and its products will appeal to its customer tastes. This would be problematic for society at large only if Fox and its customers were engaged in a campaign of Truthiness Fever, which would make its audience increasingly misinformed and antipathetic towards truth tellers. In such a case, that audience would contribute to a decline in literacy, knowledge, and reasonableness. In that case, we ought to view Fox as a polluter, poisoner, and dangerous demagogue. Let's look at the facts.

Back in 2003, the University of Maryland's Program on International Policy Attitudes (PIPA) conducted a survey on public knowledge of terrorism and the then-recently launched Iraq war. The report¹⁰ found that "Those who receive most of their news from Fox News are more likely than average to have misperceptions" about these vital issues. And the difference was substantial: According to the report, Fox News viewers were "three times more likely than the next nearest network" to hold inaccurate views of 9/11, WMDs in Iraq, and international support for the war.

In a more recent 2010 study¹¹, UMD researchers found that those "who had greater exposure to news sources were generally better informed... There were however a number of cases where greater exposure to a news source increased misinformation on a specific issue." Their major finding was that Fox News viewers were "significantly" more likely than non-viewers to erroneously believe false information about the economy, taxes, climate change, bailouts and whether President Obama was born in the United States... These effects increased incrementally with increasing levels of exposure and all were statistically significant. The effect was also not simply

¹⁰ S. Benen, "Study shows Fox News viewers misinformed about war, Iraq, WMD." October 6, 2003. <http://www.thecarpetbaggerreport.com/archives/714.html> See also http://www.worldpublicopinion.org/pipa/pdf/oct03/IraqMedia_Oct03_rpt.pdf

¹¹ Report by PIPA/UMD. http://www.worldpublicopinion.org/pipa/pdf/dec10/Misinformation_Dec10_rpt.pdf

a function of partisan bias, as people who voted Democratic and watched Fox News were also more likely to have such misinformation than those who did not watch it.”

So the truth is that regular viewers of Fox News are significantly more misinformed. That is a fact.

Is there evidence that Fox directly intends to have this harmful effect? Yes, that is also clear. We might infer it just by reasoning that a successful business is deliberate and conscious in producing products of the sort that will appeal to their customers and continually bring them back for more. But there are also reports provided by various witnesses. Here’s one example reported by MediaMatters.org.¹²

“It was a kick ass mentality too,” says the former Fox News insider. “It was relentless and it never went away. If one controversy faded, goddamn it they would find another one. They were in search of these points of friction real or imagined. And most of them were imagined or fabricated. You always have to seem to be under siege. You always have to seem like your values are under attack. The brain trust just knew instinctively which stories to do, like the War on Christmas.”

Demagogues throughout history have tried to create fear of the “other,” people of different tribes, religion or culture. Undoubtedly this works to stir up the emotions and to spread truthiness fever. This might, unfortunately, reinforce some political partisanship too, because we have recently discovered that self-described political conservatives really are more susceptible to such lies and manipulation.

Some People are Naturally Susceptible to Fear-mongering

While Fox News can be criticized for consciously manipulating people, evidence has recently surfaced that the majority of their audience are actually predisposed to respond emotionally to such manipulations. This makes lies about threats more potent and harmful. We will discuss three studies in more detail below, but let’s first state what they found. One study showed that

¹² E. Boehlert, “Fox News Insider: Stuff is Just Made Up” in *MediaMatters.org*, February 10, 2011. <http://mediamatters.org/blog/201102100007>

political conservatives are more easily alarmed and frightened. Another showed that these people have a stronger startle reflex, which is a hard-wired physical and emotional response to upsets. And a third study validated the finding that conservatives share several psychological factors, including fear, aggression, and dogmatism. These findings mean that conservatism is probably a predisposition of people with certain underlying emotional wiring. Many human tastes and values certainly have roots in our hardware. But the worrisome thing about this particular set of factors is how it makes people vulnerable to intentional fear-mongering lies. If you want to raise the temperature of these people, stir up their truthiness fever with threats and uncertainties, whether true or not. As Colbert pointed out, facts don't matter when you're stoking fears of susceptible people.

The first study mentioned was conducted at University College London.¹³ It investigated brain structure and found that people with right-wing views have a larger amygdala, a component of the central brain responsible for fear. In addition, they have a smaller anterior cingulate, a part of the front brain associated with courage and optimism. Prof. Geraint Rees, who led the research, said: "We were very surprised to find that there was an area of the brain that could predict political attitude. It is very surprising because it does suggest there is something about political attitude that is encoded in our brain structure through our experience or that there is something in our brain structure that determines or results in political attitude."

The results of this UK research align with another study that showed that some people were born with a "Liberal Gene" that makes people more likely to seek out less conventional political views. The gene, which produces a neurotransmitter in the brain called DRD4, could even be stimulated by the novelty value of radical opinions, according to the University of California researchers. Thus, both conservatives and liberals can probably be manipulated, one with fear and the other with unconventional ideas. Neither group is immune to lies.

¹³ R. Alleyne, "Political views 'hard-wired' into your brain," *The Telegraph*, December 28, 2010. <http://www.telegraph.co.uk/science/science-news/8228192/Political-views-hard-wired-into-your-brain.html>

The second study involved 46 Nebraska residents all of whom had strong political convictions.¹⁴ In this study, each participant was subjected in the lab to a perceived threat, and his or her physiological responses were measured. People with stronger threat responses, the study found, tended to adhere to “socially protective” political policies, or those that suggest more concern for preserving the social unit — for example, supporting the Iraq war and the death penalty, but opposing abortion rights and gay marriage.

Researchers avoided labeling people as conservative and liberal in this study, but they concede that volunteers who registered a heightened sense of threat also tended to subscribe to conservative attitudes. “It’s not that conservatives are ‘fraidy-cats,’” says Kevin Smith, a political science professor at the University of Nebraska–Lincoln and one of the study’s co-authors. “It’s that people who support socially protective policies — which, yes, can be interpreted as people taking a conservative position on those policies — are more sensitive to environmental threat.”

In their study, the UN-L researchers assessed sensitivity in two ways. First, they measured electrical changes in the skin as the subjects saw various photographs, some scarier than others. Second, they recorded how hard people blinked in response to loud, startling noises. These two measures were found to correlate with the self-declared conservative political views. In addition, the greater the startle reflex, the less likely the person was to accept compromise solutions to problems and the more likely to stick to a path once chosen.

“The reason that we have differences in political attitudes may be because deep down we have real differences, and we react to the world and see the world in different ways,” says Smith. The study, he says, “basically confirms what people intuitively know about politics: a lot of it comes from the gut. We feel it on a really deep, probably biological basis, at least to some extent.” Given this predisposition, intentionally startling or scaring these sensitive conservative people can produce predictable symptoms of truthiness fever.

The last study to discuss in this area was a meta-analysis, which means an effort to integrate the results of many different studies. In particular, this study

¹⁴ A. Silver, “The startle reflex: Key to your politics” in *Time*. September 19, 2008. <http://www.time.com/time/health/article/0,8599,1842523,00.html>

analyzed and combined results from 88 studies across 12 different countries.¹⁵ The study was conducted to address a concern that perhaps the entire field of social psychology, where most researchers are liberal, was biased in its research. Much of that research had shown findings consistent with the following condensed conclusions:

People who are expressive, creative, curious and novelty-seeking tend to be self-declared liberals. On the other hand, people who are organized, conventional, reserved and neat tend to be conservative.

This might reasonably make you think that liberals are distorting the research and facts in the entire field. John Jost, a social psychologist at New York University, rejects that charge. Research showing that conservatives score higher on measures of “intolerance of ambiguity” or the “need for cognitive closure” might bother some people, said Jost, but that does not make it biased.

Jost and his colleagues in 2003 compiled their meta-analysis from studies conducted over a 40-year period. They concluded conservatives tend to have higher needs to reduce uncertainty and threat. Conservatives also share psychological factors like fear, aggression, dogmatism, and the need for order, structure and closure. They provided a plausible explanation for their findings. In their explanation, political conservatism would provide a defense against anxieties and threats that everyday uncertainties could trigger. Conservatives could avoid such problems by justifying the status quo and preserving comfortable and familiar conditions.

According to the *Science Line* report, “The study triggered quite a public reaction, particularly within the conservative blogosphere. But the criticisms, according to Jost, were mistakenly focused on the researchers themselves; the findings were not disputed by the scientific community and have since been replicated. For example, a 2009 study followed college students over the span of their undergraduate experience and found that higher perceptions of threat did indeed predict political conservatism. Another 2009 study found that when confronted with a threat, liberals actually become more psychologically and politically conservative.”

¹⁵ L. Groeger, “Political — or politicized? — psychology: Scientists combat the charge of ideological bias.” *ScienceLine*. March 8, 2011. <http://scienceline.org/2011/03/political-%E2%80%94-or-politicized-%E2%80%94-psychology-2/>

These studies make clear that people who consider themselves politically conservative have a more involuntary and emotional response to things they perceive as threats. Perceived threats rile them up. Truthiness can be exploited to give them a fever. Some organizations exploit this for power and profit. Truth is unnecessary and likely counterproductive, those organizations have probably figured out. As a consequence, we have a rich, powerful sector of the economy dedicated to misinforming and dumbing down a significant portion of the populace. Lies may sell, but they also poison the mind and, from there, the entire body politic.

People Seek Entertainment More than Knowledge

All organized cultures need to keep their citizens tranquil, lest business and government cease to function. In 2011, we saw many cases throughout the Middle East where domestic tranquility ended. In most cases, the populations were rebelling against autocratic regimes that maintained “tranquility” through forceful repression over several decades. In other societies, tranquility usually continues until problems become so bad that people no longer can tolerate them. Revolutions often begin with poor people rising up because they cannot eat or cannot reasonably support their families.

In a modern industrialized society, most people are above subsistence level, but not affluent. When the bottom 50% of the population has less of the wealth than the top 10%, they might get envious or even ornery¹⁶. Thus, it’s typical in advanced societies that entertainments are widely purveyed and consumed. It seems vital to the functioning of these societies that the bulk of the populace be able to put its energies and emotions into some activity that fulfills emotional needs at low cost¹⁷. Television provides the principal means of delivering this entertainment, and sporting events and other contests

¹⁶ This is actually the situation in the US, where income inequality is now at a level higher than any year since 1917. See E. Saez, “Striking it Richer: The Evolution of Top Incomes in the United States (Update using 2006 preliminary estimates)”, May 15, 2008. <http://www.scribd.com/doc/14607476/Top-Decile-US-Income>

¹⁷ These points are explored in detail in the book Hubert Dreyfus and Sean Dorrance Kelly, *All Things Shining: Reading the Western Classics to Find Meaning in a Secular Age*: Free Press, 2011. A good discussion of the importance of stadiums, and baseball in particular, is in a column by David Brooks, “The Arena Culture” in *The New York Times*, December 30, 210.

provide the cheapest way of producing a continuing stream of emotionally charged events that people can invest their emotions in.

So entertainment helps fulfill the lives of most of the people who aren't educated or rich enough to pursue self-development or expensive projects of various sorts. And the social order is attuned to providing this entertainment and keeping average citizens contented. These people have little interest in ferreting out truth or acquiring a lot of knowledge, because those have little relevance to their practical lives. Knowing more doesn't enable them to earn more money, gain more status, or make themselves happy. Given a choice between watching a college class or a reality TV program with beautiful young bodies, the audience goes for the latter. This serves the interests of the owners and ruling incumbents. It explains why the most successful TV broadcasters and network programs focus on "idiot fashions and panics and image-motifs, all aimed at sewing the citizen back (unobtrusively, 'individually') into a deadly simulacrum of community."¹⁸

People Who Think Facts Shouldn't Matter

People might say that truth is important, and that facts count, but many powerful organizations and all sociopaths say whatever they think will help them get what they want. We have plenty of evidence that businesses routinely lie, and there is little evidence that ethics courses in business school will change that. Under current law, corporations are normally chartered to focus on profits for their owners. Short of directly defrauding people, they can get away with most lying and propaganda. As of 2011, not a single Wall Street player in the housing bust and financial meltdown has been charged with a crime. Yet, most investors thought when they purchased collateralized debt obligations (CDOs) comprising government-backed mortgage instruments that they were buying extremely safe financial products. Emails among participants in this industry revealed that the informed players did not have the same confusion as the buyers did. For the players, facts didn't matter. For everybody else, *caveat emptor*, let the buyer beware.

Through the past few decades of US Federal and State governance, other non-factual perceptions were often promoted through various media:

Deficits don't matter.

¹⁸ "Retort: Afflicted Powers" in *New Left Review*, May/June 2004.

Rick Hayes-Roth

Tax cuts for the wealthy create jobs.

The US has the greatest health care system in the world.

Saddam Hussein was linked to the 9/11 terrorists.

...

This book isn't about particular lies, but the culture of lying that has come to threaten our prosperity and long-term survival. The root of our problem is that we are surrounded by people who lie, who benefit from lying, and who aren't going to stop lying unless the rules of the game change. While regrettable, these people can rationalize lying as their best personal strategy for doing well. For them, facts are secondary to results. The ends justify the means. If lies, propaganda, misinformation, and phony threats can make them money or secure their power, they rationally choose to exploit those methods.

Guy Debord wrote the following apt comments in 1998¹⁹: "There is no place left where people can discuss the realities which concern them, because they can never lastingly free themselves from the crushing presence of media and of the various forces organized to relay it... Unanswerable lies have succeeded in eliminating public opinion, which first lost the ability to make itself heard and then very quickly dissolved altogether... Once one controls the mechanism which operates the only form of social verification to be fully and universally recognized, one can say what one likes. . .Spectacular power can similarly deny whatever it wishes to, once, or three times over, and change the subject: knowing full well that there is no danger of riposte in its own space of any other."

It is mere wishful thinking to hope that rich and powerful people will somehow choose to stop lying. People aren't "into" truth telling. Telling the truth is a sucker's game. The big men lie, and you can't get ahead without lying.

Our society is suffering from a full-on raging case of truthiness fever.

¹⁹ G. Debord is quoted in the editorial, "Retort: Afflicted Powers" in *New Left Review*, May/June 2004. The order of his sentences was rearranged from the original. The original is "Society of the Spectacle" available at <http://www.scribd.com/doc/2510948/debord-guy-society-of-the-spectacle>

The 10-Step Recovery Program for our Culture's Lying Addiction

Various 12-step programs have established track records for dealing with different types of addiction. They all depend on recognizing a higher power. In the present case, however, our entire social welfare depends on us, individually and collectively, undertaking some approach to changing the rules so that the balance shifts in favor of truth and away from falsehood. We are clearly the problem here, because we create the rules by which social activity occurs and is governed. While humans have been working on improving the rules of governance for several thousand years, many of the most important elements are relatively recent innovations. Constitutional democracy began with the US in 1789. Modern corporations chartered for their stockholders rather than for public interest began in the late nineteenth century. Concentration of wealth, technology, and control of communications has been rising to an all-time peak in the most recent decade. The Internet and other telecommunications make it possible for a few powerful people to inform, influence and manipulate millions of humans by controlling what those people see and hear. We have a culture that rewards people who can influence consumers and voters to “buy” their products. In addition, the rich and powerful employ hundreds of lobbyists to sell directly to the staffs, agencies, and elected officials who regulate their businesses and direct how the government spends trillions of dollars. Lobbying is a growth business. Whether selling to consumers or selling to government, their efforts often bring these people great wealth and power. The system is mostly unregulated and facts are incidental.

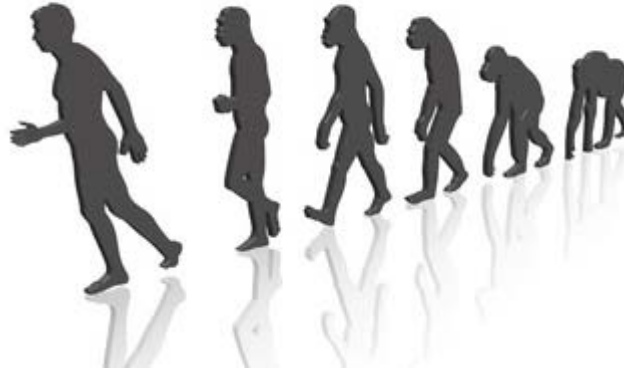
So it's little wonder we have a power-hungry, money-seeking elite addicted to lying, and pretty much anything else required to make more money, energize more voters, and influence or control lawmakers and regulators. The 10-Step Recovery Program we are recommending starts with recognition that we have a big problem and moves on to practical steps we need to take to change direction. We aren't going to do this quickly or alone, but we might succeed if enough people decide this is a cause worth pursuing and we use the weapons at our disposal. Thoughtful analysts believe that the downfall of the Soviet Union can be attributed, at least in part, to the rise of electronic mail. Email made it impossible for the leaders of the Soviet Union to bar entry of timely information about the West through the Iron Curtain. The more facts people in the USSR could get about the outside world, the less tolerant they became of the fictions and propaganda they were fed.

More recently, we have seen uprisings in Iran and then Egypt reported upon and somewhat coordinated using Internet and social network technologies such as Twitter and Facebook. In the case of Egypt, the uprising was clearly stimulated and nurtured by widespread use of Facebook. Videos uploaded to YouTube helped fuel and ignite opposition to dictatorships throughout the region.

Autocratic regimes such as China and North Korea still actively block and censor Internet information. They recognize that facts do matter. They understand that successful control of their populations depends on keeping out truths that could despoil their carefully manipulated information environments. In advanced societies dominated by gigantic businesses and billionaires, we have a different but related problem. In these societies, people with vast resources and media access are free to fill the information environment with whatever they want. Consumer beware. Unfortunately, the amount of information facing the average citizen vastly exceeds his or her capacity to assess and filter. In this situation, the consumer is doomed unless the society as a whole implements new regulations that assure we can have honest information, just as we have laws that seek to guarantee that we consume safe water, clean air, and food without poisons.

We need to clean up the environment to protect individuals and society as a whole from the predictable consequences of pollution. Information pollution, as we have discussed, causes people to become fearful, misinformed and feverish. Fear can stimulate arousal and adrenaline, which can become addictive. The people who purvey the lies and propaganda to feed that addiction are pushers, not of illegal drugs, but of legal stimulants. The pushers profit from their activities, and the society bears the costs. Our 10-Step Program declares that we must recognize the vital value of truth, that truth is not feeling, and feeling is not truth. The idea that feeling makes something true is extremely dangerous to our health. When feelings and truth collide, our progress as *Homo sapiens* depends on humans being willing to learn from the facts and alter their behavior accordingly.

2. The Vital Value of Truth



Do facts matter? Or are we safe in a world where greed, ambition and manipulation twist the information most consumed? While it might seem the answers should be obvious, we can see that a fierce contest is underway. On the one hand, we have morality, religious teaching, and ethics pushing us to tell the truth. On the other hand, we have autocrats, billionaires, political committees, corporate mouthpieces, and lobbyists saying whatever they think will help their cause. People who study human culture such as Leslie White and Jared Diamond tell us that we can best understand societies by looking at which ideas directly control most social resources. In American society, as a particular example, their analytical perspective would lead us to the major areas of business, government, and commercial spending. This would indicate that the dominant concepts in the US today are something like the following:

We are militarily threatened globally and should spend whatever it takes to be dominant and superior.

The more fossil fuel we can consume, the better.

We want the biggest, richest, freest businesses and owners we can get.

Taxes are evil.

Senior citizens dominate voting so their needs should get high priority.

Rick Hayes-Roth

Rich businesses and people contribute the money required to elect politicians, so we should cater most to their desires.

Individuals should bear the costs of their personal misfortunes.

Maximizing product sales and product consumption is job one.

Messages are *good* if they cause people to behave the way we want.

It doesn't matter whether these ideas are *exactly* the ones that dominate current culture. They certainly approximate those that control dominant spending. For our purposes, the ideas expose the conflict between prevalent *concepts* and actual *facts*. These concepts provide the motive force behind behaviors that protect the associated vested interests. They lead to excessive spending and favored positions for players in various industries and business practices. They lead to excessive military spending and foreign adventurism. They lead to tax breaks for giant oil companies, increased global warming, and delayed adaptive responses to climate change. They lead to unsustainable entitlements, reduced education, and resistance to medical reforms for the uninsured. They encourage brilliant young Americans to seek careers in finance, advertising and law, while ever fewer take up the challenges of science, technology, engineering and mathematics (STEM). And, in particular, they reflect by its absence, any significant commitment to facts, truth, and honesty. How quaint those concepts seem in our current cultural context.

Facts Can be Powerful

The scholars who study culture often boil down human history into simplified power contests. "Might makes right." "History is written by the victors." These saws tell the human story as seen through the lens of conflicts and domination. Focusing on conceptual control of resources enables you to see what power is being accumulated and to predict how it will likely be employed. The brief assessment of US cultural concepts above suggests we will continue shifting more and more income to rich, powerful entities, that these controlling interests will pursue military, financial, and fossil fuel industrial agendas, and that US children will continue to avoid careers in STEM, so that US international competitiveness in STEM will decline.. In this cultural arena, facts, knowledge, and science are perceived to be weak siblings of the truly powerful ideas, such as how to make products sexy and get people to consume them or how to get voters to think deregulated businesses will make them richer or safer.

To tamp down truthiness fever, we must begin by recognizing that facts can be powerful and, therefore, valuable. Every time we use a modern electronic product, we experience this power and value. While very few of us understand solid-state electronics, non-volatile memory, touch-sensitive displays, wireless communications, operating systems and object-oriented programming, or Internet standards, knowledge from these fields makes those products possible. A few knowledge-based people, understanding those facts, can design, engineer and manufacture products that to the average person are indistinguishable from magic.

The facts of STEM enable us to predict how things work and to design products that do what we want. As we increase the complexity of systems, our abilities to predict and control often degrade and become probabilistic. Even our consumer products such as smart phones exhibit occasional glitches or freeze up. The interval between these problems, which engineers refer to as Mean Time Between Failures (MTBF), is usually measured in days. The MTBF for individual components or for extremely high-reliability products usually reaches years. Factual, scientific understanding of how things works makes those high performances possible.

When products or systems can get into various states, such as the phone's OK vs. freeze-up states, we aren't able to predict perfectly which state will occur at what time. This inability to predict their states exactly makes the systems *non-deterministic* or *probabilistic*. In essence, we can predict that the phone will be in an OK state with probability .9999, but must admit there's a 0.0001 probability the phone will be frozen at any moment we choose to look. Much of the world is non-deterministic, but that doesn't mean our knowledge is worthless. It just means that facts need not be 100% certain to be useful or, equivalently, that valid probabilistic statements are also facts.

The power of facts derives from their ability to reduce our uncertainty, which in turn improves our ability to take actions that accomplish our goals. This idea goes to the heart of what Claude Shannon identified as the meaning of *information*. Shannon invented the concept of a *bit*, a binary digit, to reflect one unit of information, exactly the amount needed to correctly choose between two equally likely possible outcomes. As a simple example harkening back to Paul Revere's ride, the colonials were uncertain which route the British would take to suppress their rebellion and chose to signal each differently: "One if by land, two if by sea." The uncertainty between land and sea, exactly two choices, could be conveyed today in a modern

digital communication system using a single bit, set to either 0 or 1, to indicate respectively each of the two alternatives.

One broadly applicable view of facts is that they provide information to reduce our uncertainties. Before we have a fact, the number of plausible alternatives is greater than after we have the fact. Measuring the amount of information is less important for our purposes than is acknowledging that all facts reduce uncertainty. Possessing facts allows us to make smarter choices, win more often, when responding to events.

Science is the name we give the methodology and enterprise concerned with discovering, organizing, cataloguing, and validating facts. Scientists use different terminology for different sorts of information, such as observations, facts, hypotheses, theories, laws, inferences and so forth. These categories help them organize vast collections of facts and navigate relationships among them. Regardless, from our perspective, they can all be considered facts whose information content reduces uncertainty. Facts improve our odds in predicting the future, controlling systems, and intelligently adapting to reality.

Are Humans Rational or Emotional?

People, *Homo sapiens*, are unique among the animal world in their abilities to accumulate knowledge, write it down, learn by reading, and deliberately assess their designs and plans in light of what is known. These abilities make them “wise” and “knowing.” Of course, if their thinking produced mostly wrong answers, it wouldn’t be prized. That’s why people who think for a living rely on facts, because they most effectively reduce uncertainty and produce correct answers. Anybody who practices this kind of thinking is exhibiting what’s called *rational* behavior. While humans aren’t the only animals that occasionally exhibit rationality, they are unique for the systems of writing and processing facts.

The advanced neo-cortex of *Homo sapiens* is the “special sauce” that propels humans to a higher level of cognitive capability. This thin layer of brain tissue lies over the other brain structures below it, drawing information from them and coordinating their activities. The lower brain structures are common to many other animals, and the lower parts of the brain and spinal cord can be found in many more primitive species. So our rational capabilities are supported by many brain components present in animals that exhibit little or no rationality. All of those animals, and humans too, have brain systems for non-rational behaviors.

Many of these non-rational behaviors are associated with unconscious and automatic responses. Reflexes, such as the startle reflex, and emotions, such as fear, are basic to most animals. The lower animals needed these systems to survive against environmental dangers they faced, especially predators. The animals that developed quick and effective systems for sensing and avoiding predators lived to reproduce, and their genes passed along these capabilities to their descendants. Animals that were too slow and dull faced a higher rate of extinction. Thus, these common lower-brain capabilities were selected, passed down the evolutionary tree, and ultimately came to be part of the human endowment.

This rich endowment of primitive capabilities, complemented by powerful rationality, produces many interesting challenges for modern humans. Should we fear people who look different? Should we distrust people who speak with foreign accents? Should we do business with people from different cultures? Should we believe only what we can personally perceive or which others who look like us believe? All of these questions arise because we have hard-wired emotional equipment that has been evolutionarily selected to keep us alive by making us sense and avoid people who trigger our suspicions. More importantly for our purposes, we must recognize that our emotional equipment wasn't designed or selected to improve our rational decision-making. To make quality decisions, we need to focus on facts, reason correctly, and systemically assess our options in the face of uncertainty. So while we are surely *both* rational *and* emotional, the emotional equipment alerts us to things that make us uncomfortable. The rational equipment helps us make correct choices, assuming we load the processor with facts.

Because we have these two different systems, much of personal development is concerned with taming and harnessing them, learning when to rely on one and when to rely on the other. There are some general findings in this area that can explain a wide class of observed behaviors. One important fact is that most people feel the impact of losses more heavily than comparable gains.²⁰ For example, most people will not accept a 50-50 gamble that offers them equal losses and gains. To sell the average person a lottery ticket with a 50-50 chance of winning \$100, you need to lower the ticket price

²⁰ "Loss aversion" in *Psychology Wiki*. 2011.
http://psychology.wikia.com/wiki/Loss_aversion

to about \$50, so they will risk losing only half as much as they might win. This type of simple choice doesn't seem rational, because if you were able to play the game over and over, you could surely make money by risking as much as \$99 against the 50-50 chance of winning \$100. But we can understand the response as rational if we recognize that the pleasure value of winning \$100 is equal to the negative pleasure (the displeasure) value of losing about \$50. Economists would characterize this by saying the *utility* of +\$100 equals the negative utility of -\$50. In short, we like to win, but we hate to lose. The economists' concepts of positive and negative utility correspond to human feelings such as pleasure and displeasure, respectively.

This simple asymmetry between the emotional strength of winning and losing carries over to many areas that produce pleasure or displeasure, where displeasure can emanate from fear, anxiety, loss, or pain. These displeasures are much more salient and negative than corresponding pleasures. Humans are wired to avoid displeasures, and as we discussed in the previous chapter, people differ markedly both in the degree to which threats of these sorts upset them and the philosophical and political attitudes they hold.

Demagogues through history have exploited the ability to frighten people to stir up truthiness fever both to scapegoat minorities and to gain support for authoritarian regimes. These are dominant facts in the rise of Hitler, the rule of Big Brother in *1984*, and in efforts by modern-day tyrants throughout the world who seek support by instilling fear. For modern examples we can point to claims made by Mubarak in Egypt, Gadhafi in Libya, and Kim Jong-Il in North Korea about the external and internal threats that justify their authoritarian policies. Campaigns to demonize immigrants are frequent, age-old tactics used to stoke the fever. Similarly, attacks on minorities based on cultural, religious, skin-color, or intellectual differences recur throughout history. These gambits have predictable consequences well understood by those who practice them. They exploit know-how about the best way to stir up emotions when it feeds their ambitions for power or wealth.

Teach Your Children Well

When we have children, we begin to realize how challenging it is to help them filter lies from truth. We immediately recognize the potential importance of truth to them, because true knowledge of the world enables them to understand things and achieve predictable results from planned efforts. We envision adult futures for them where they will have good jobs, make good livings, and be respected. Professions such as doctors, engineers, and

scientists come to mind. We might want them to be lawyers, bankers or business people, but for most of us that carries a concern about ethical challenges that might damage respectability. Few of us would wish for them to become used car salesmen, real estate agents, or politicians, because these roles are thought to be fraught with lying and cheating

When the children are young, we consciously decide to mislead them with little white lies, including Santa Claus, the Easter Bunny, and the Tooth Fairy. We reason, probably correctly, that these little lies won't do any harm, and that our kids will surely outgrow them. Most parents in America, even if they are not religious themselves, similarly reason that teaching the kids the beliefs of some religion will comfort and guide them and will do little harm. Many expect the kids will at some point reject religion but might return to it when older and wiser²¹.

Finally, we introduce our kids to fictional books, movies, and videogames, with the idea that entertainment is just that, and the kids will grow up fine, with no lasting consequences, and no confusion about the difference between facts and fiction. As new media become common, we worry the children will be adversely affected by the form or the content. This story is replayed with each new technology.

Now that we are well into the information age, we all are awash in plentiful and easily accessible content. Consider pornography, as an example. Consumption of pornography, made easy by Free Enterprise and the Internet, has increased enormously. Many studies indicate that consumption of pornography reinforces harmful attitudes and behaviors, such as aggressiveness.^{22,23} Thus, we can only hope our children understand these risks and can distinguish so-called "entertainment" from "reality." Merely

²¹ A study by the Pew Forum on Religion and Public Life, "U.S. Religious Landscape Survey," shows that the number of adults unaffiliated with any religion is growing over time, but that more than 90% of American children are raised within some religion. <http://religions.pewforum.org/reports>

²² M. Allen, D. D'Alessio, K. Brezgel. "A meta-analysis summarizing the effects of pornography II. Aggression after exposure." *Communication Research*, March 17, 2006.

²³ E. Donnerstein, D. Linz, S. Penrod. *Question of Pornography: Research Findings and Policy Implications*. Free Press, 1987.

consuming this entertainment disturbs your emotions, alters your attitudes, and raises your fever.

Similar effects probably are caused by consumption of any propaganda. Propaganda, after all, is designed to arouse people emotionally. We have many historical examples where demagogues used propaganda to extreme effect. These days, our best local examples of propaganda consist of political campaigns, especially those using negative advertisements, to besmirch opponents and rally partisan loyalists against perceived threats. Political campaigns saturate swing districts with as much of this as they can afford. There is evidence that it works, and as a result the rich and powerful do more and more of it each year to tilt outcomes to their own advantage.

Children certainly can't tell the difference between facts and lies, and our society spends more on lying than truth telling. So our children are consuming more lies every year than previously. It seems obvious that unless we can teach them to distinguish lies from facts, they are at mortal risk of having their brains filled with garbage.

Unfortunately, we have no way to teach them to do this filtering. They are, in fact, at mortal risk.

Humanity at Risk

As humans, we are distinguished from all other animals by our use of language to communicate information among people. The information can convey truth or lies. When we teach our children truth, we empower them to cope with reality in rational ways. When we teach our children lies, we disempower them. The children can also consume lies on their own, as when they believe pornographers, consume propaganda, or confuse entertainment content for factual journalism.

If a significant part of public communication consists of lies, we basically disempower the public. We poison their information environment, induce them to consume and believe garbage, and then reap what we have sown. Democracy and civilization depend on citizens making important decisions based on truth.

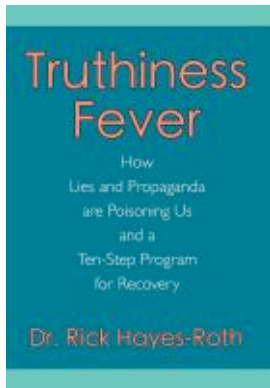
Powerful forces motivate and reward liars. Our culture is literally addicted to lying. Lying hurts us, but lying pays rewards to its sponsors. Humanity faces many daunting problems that require the best thinking possible. Lies pollute the public information commons, and liars face few disincentives or penalties. Humanity cannot achieve its potential and may not

even survive 100 years without more rational and informed responses to its true challenges.²⁴

Thus, nothing less than human survival depends on our finding ways to clean up the mess of lies polluting our information sphere. The same threats of excessive pollution we face now in the sphere of information have previously been faced in other areas of our environment, including water, air, and food. So, the question is, do we know how to break our social addiction to the lying and propaganda that is poisoning our information environment?

This book presents one idea for tackling this addictive pollution, namely to adopt a variant of the 12-step programs that have been applied successfully to other addictions, notably alcoholism. Our proposed approach uses a 10-Step Program. Like the 12-step programs it emulates, the 10-Step Program is designed to enlist individuals and weave them together into a social support network. Individually and collectively, we begin by admitting that we have a serious, harmful, addictive problem that will require significant changes in behavior to address. Unlike a 12-Step program however, this social problem, can and must be addressed in part by changing the rules of the game. The 10-Step Program aims to enlist more and more members into cleanup brigades who collectively tilt the playing field, so that liars lose and truth tellers win. We will spell out the details in Chapters 7 and 8. First, however, we need to look a bit deeper into our current situation and how we got here. That should provide a basis for understanding how and why the 10-Step Program can bring about the needed recovery.

²⁴ M. Rees (2003). See also Firth (2010), where he describes the dire assessment by Frank Fenner, a world famous microbiologist.



This book focuses on truth, beliefs that best match empirical evidence. Truth contrasts with truthiness, beliefs supported primarily by emotions and feelings. When political satirist Steven Colbert celebrated the rise of "truthiness," he called attention to an important pathology in our body politic. Politics, broadcasting, and business as usual are poisoning the information environment. The author's scholarly research shows how bad things have become, but then he proceeds to prescribe a 10-step recovery program.

Truthiness Fever

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