

FUTURE NEWS

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IN THIS EDITION

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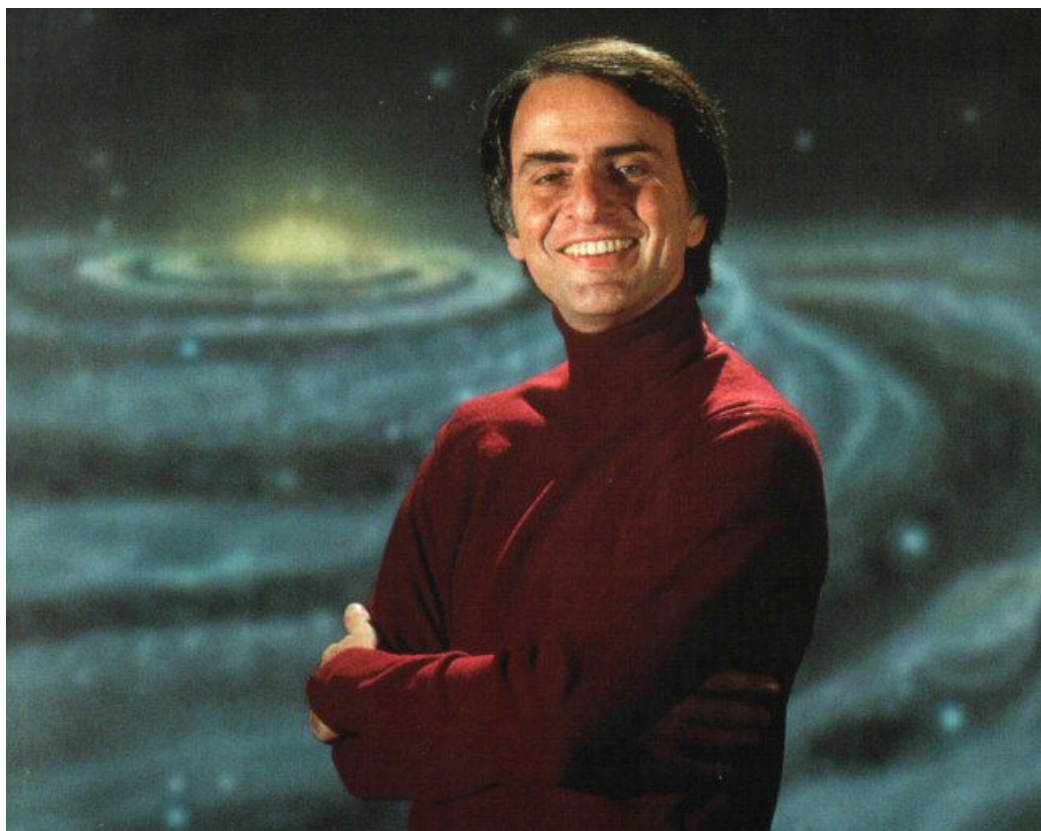
THE BALONEY DETECTION KIT

CARL SAGAN'S RULES FOR BULLSHIT-BUSTING AND CRITICAL THINKING

by Maria Popova



Carl Sagan (November 9, 1934–December 20, 1996) was many things — a cosmic sage, voracious reader, hopeless romantic, and brilliant philosopher. But above all, he endures as our era's greatest patron saint of reason and critical thinking, a master of the vital balance between skepticism and openness. In *The Demon-Haunted World: Science as a Candle in the Dark* (public library) — the same indispensable volume that gave us Sagan's timeless meditation on science and spirituality, published mere months before his death in 1996 — Sagan shares his secret to upholding the rites of reason, even in the face of society's most shameless untruths and outrageous propaganda.



In a chapter titled “**The Fine Art of Baloney Detection**,” Sagan reflects on the many types of deception to which we’re susceptible — from psychics to religious zealotry to paid product endorsements by scientists, which he held in especially low regard, noting that they “betray contempt for the intelligence of their customers” and “introduce an insidious corruption of popular attitudes about scientific objectivity.” But rather than preaching from the ivory tower of self-righteousness, Sagan approaches the subject from the most vulnerable of places — having just lost both of his parents, he reflects on the all too human allure of promises of supernatural reunions in the afterlife, reminding us that falling for such fictions doesn’t make us stupid or bad people, but simply means that we need to equip ourselves with the right tools against them.

Through their training, scientists are equipped with what Sagan calls a “baloney detection kit” — a set of cognitive tools and techniques that fortify the mind against penetration by falsehoods:

The kit is brought out as a matter of course whenever new ideas are offered for consideration. If the new idea survives examination by the tools in our kit, we grant it warm, although tentative, acceptance. If you’re so inclined, if you don’t want to buy baloney even when it’s reassuring to do so, there are precautions that can be taken; there’s a tried-and-true, consumer-tested method.

But the kit, Sagan argues, isn’t merely a tool of science — rather, it contains invaluable tools of healthy skepticism that apply just as elegantly, and just as necessarily, to everyday life. By adopting the kit, we can all shield ourselves against clueless guile and deliberate manipulation. Sagan shares nine of these tools:

1. Wherever possible there must be independent confirmation of the “facts.”
2. Encourage substantive debate on the evidence by knowledgeable proponents of all points of view.
3. Arguments from authority carry little weight — “authorities” have made mistakes in the past. They will do so again in the future. Perhaps a better way to say it is that in science there are no authorities; at most, there are experts.
4. Spin more than one hypothesis. If there’s something to be explained, think of all the different ways in which it could be explained. Then think of tests by which you might systematically disprove each of the alternatives. What survives, the hypothesis that resists disproof in this Darwinian selection among “multiple working hypotheses,” has a much better chance of being the right answer than if you had simply run with the first idea that caught your fancy.
5. Try not to get overly attached to a hypothesis just because it’s yours. It’s only a way station in the pursuit of knowledge. Ask yourself why you like the idea. Compare it fairly with the alternatives. See if you can find reasons for rejecting it. If you don’t, others will.
6. Quantify. If whatever it is you’re explaining has some measure, some numerical quantity attached to it, you’ll be much better able to discriminate among competing hypotheses. What is vague and qualitative is open to many explanations. Of course there are truths to be sought in the many qualitative issues we are obliged to confront, but finding is more challenging.
7. If there’s a chain of argument, link in the chain must work (including the premise) — not just most of them.
8. Occam’s Razor. This convenient rule-of-thumb urges us when faced with two hypotheses that explain the data to choose the simpler.
9. Always ask whether the hypothesis can be, at least in principle, falsified. Propositions that are untestable, unfalsifiable are not worth much. Consider the grand idea that our Universe and everything in it is just an elementary particle — an electron, say — in a much bigger Cosmos. But if we can never acquire information from outside our Universe, is not the idea incapable of disproof? You must be able to check assertions out. Inveterate skeptics must be given the chance to follow your reasoning, to duplicate your experiments and see if they get the same result.



Just as important as learning these helpful tools, however, is unlearning and avoiding the most common pitfalls of common sense. Reminding us of where society is most vulnerable to those, Sagan writes:

“In addition to teaching us what to do when evaluating a claim to knowledge, any good baloney detection kit must also teach us what not to do. It helps us recognize the most common and perilous fallacies of logic and rhetoric. Many good examples can be found in religion and politics, because their practitioners are so often obliged to justify two contradictory propositions.”

He admonishes against the twenty most common and perilous ones — many rooted in our chronic discomfort with ambiguity — with examples of each in action:

1. **ad hominem** — Latin for “to the man,” attacking the arguer and not the argument (e.g., The Reverend Dr. Smith is a known Biblical fundamentalist, so her objections to evolution need not be taken seriously)
2. **argument from authority** (e.g., President Richard Nixon should be re-elected because he has a secret plan to end the war in Southeast Asia — but because it was secret, there was no way for the electorate to evaluate it on its merits; the argument amounted to trusting him because he was President: a mistake, as it turned out)
3. **argument from adverse consequences** (e.g., A God meting out punishment and reward must exist, because if He didn’t, society would be much more lawless and dangerous — perhaps even ungovernable. Or: The defendant in a widely publicized murder trial must be found guilty; otherwise, it will be an encouragement for other men to murder their wives)
4. **appeal to ignorance** — the claim that whatever has not been proved false must be true, and vice versa (e.g., There is no compelling evidence that UFOs are not visiting the Earth; therefore UFOs exist — and there is intelligent life elsewhere in the Universe. Or: There may be seventy kazillion other worlds, but not one is known to have the moral advancement of the Earth, so we’re still central to the Universe.) This impatience with ambiguity can be criticized in the phrase: absence of evidence is not evidence of absence.

5. **special pleading**, often to rescue a proposition in deep rhetorical trouble (e.g., How can a merciful God condemn future generations to torment because, against orders, one woman induced one man to eat an apple? Special plead: you don't understand the subtle Doctrine of Free Will. Or: How can there be an equally godlike Father, Son, and Holy Ghost in the same Person? Special plead: You don't understand the Divine Mystery of the Trinity. Or: How could God permit the followers of Judaism, Christianity, and Islam — each in their own way enjoined to heroic measures of loving kindness and compassion — to have perpetrated so much cruelty for so long? Special plead: You don't understand Free Will again. And anyway, God moves in mysterious ways.)
6. **begging the question**, also called **assuming the answer** (e.g., We must institute the death penalty to discourage violent crime. But does the violent crime rate in fact fall when the death penalty is imposed? Or: The stock market fell yesterday because of a technical adjustment and profit-taking by investors — but is there any independent evidence for the causal role of “adjustment” and profit-taking; have we learned anything at all from this purported explanation?)
7. **observational selection**, also called **the enumeration of favorable circumstances**, or as the philosopher Francis Bacon described it, counting the hits and forgetting the misses (e.g., A state boasts of the Presidents it has produced, but is silent on its serial killers)
8. **statistics of small numbers** — a close relative of observational selection (e.g., “They say 1 out of every 5 people is Chinese. How is this possible? I know hundreds of people, and none of them is Chinese. Yours truly.” Or: “I’ve thrown three sevens in a row. Tonight I can’t lose.”)
9. **misunderstanding of the nature of statistics** (e.g., President Dwight Eisenhower expressing astonishment and alarm on discovering that fully half of all Americans have below average intelligence);
10. **inconsistency** (e.g., Prudently plan for the worst of which a potential military adversary is capable, but thriftily ignore scientific projections on environmental dangers because they’re not “proved.” Or: Attribute the declining life expectancy in the former Soviet Union to the failures of communism many years ago, but never attribute the high infant mortality rate in the United States (now highest of the major industrial nations) to the failures of capitalism. Or: Consider it reasonable for the Universe to continue to exist forever into the future, but judge absurd the possibility that it has infinite duration into the past);
11. **non sequitur** — Latin for “It doesn’t follow” (e.g., Our nation will prevail because God is great. But nearly every nation pretends this to be true; the German formulation was “Gott mit uns”). Often those falling into the non sequitur fallacy have simply failed to recognize alternative possibilities;
12. **post hoc, ergo propter hoc** — Latin for “It happened after, so it was caused by” (e.g., Jaime Cardinal Sin, Archbishop of Manila: “I know of ... a 26-year-old who looks 60 because she takes [contraceptive] pills.” Or: Before women got the vote, there were no nuclear weapons)
13. **meaningless question** (e.g., What happens when an irresistible force meets an immovable object? But if there is such a thing as an irresistible force there can be no immovable objects, and vice versa)
14. **excluded middle**, or **false dichotomy** — considering only the two extremes in a continuum of intermediate possibilities (e.g., “Sure, take his side; my husband’s perfect; I’m always wrong.” Or: “Either you love your country

or you hate it.” Or: “If you’re not part of the solution, you’re part of the problem”)

15. **short-term vs. long-term** — a subset of the excluded middle, but so important I’ve pulled it out for special attention (e.g., We can’t afford programs to feed malnourished children and educate pre-school kids. We need to urgently deal with crime on the streets. Or: Why explore space or pursue fundamental science when we have so huge a budget deficit?);
16. **slippery slope**, related to excluded middle (e.g., If we allow abortion in the first weeks of pregnancy, it will be impossible to prevent the killing of a full-term infant. Or, conversely: If the state prohibits abortion even in the ninth month, it will soon be telling us what to do with our bodies around the time of conception);
17. **confusion of correlation and causation** (e.g., A survey shows that more college graduates are homosexual than those with lesser education; therefore education makes people gay. Or: Andean earthquakes are correlated with closest approaches of the planet Uranus; therefore — despite the absence of any such correlation for the nearer, more massive planet Jupiter — the latter causes the former)
18. **straw man** — caricaturing a position to make it easier to attack (e.g., Scientists suppose that living things simply fell together by chance — a formulation that willfully ignores the central Darwinian insight, that Nature ratchets up by saving what works and discarding what doesn’t. Or — this is also a short-term/long-term fallacy — environmentalists care more for snail darters and spotted owls than they do for people)
19. **suppressed evidence**, or **half-truths** (e.g., An amazingly accurate and widely quoted “prophecy” of the assassination attempt on President Reagan is shown on television; but — an important detail — was it recorded before or after the event? Or: These government abuses demand revolution, even if you can’t make an omelette without breaking some eggs. Yes, but is this likely to be a revolution in which far more people are killed than under the previous regime? What does the experience of other revolutions suggest? Are all revolutions against oppressive regimes desirable and in the interests of the people?)
20. **weasel words** (e.g., The separation of powers of the U.S. Constitution specifies that the United States may not conduct a war without a declaration by Congress. On the other hand, Presidents are given control of foreign policy and the conduct of wars, which are potentially powerful tools for getting themselves re-elected. Presidents of either political party may therefore be tempted to arrange wars while waving the flag and calling the wars something else — “police actions,” “armed incursions,” “protective reaction strikes,” “pacification,” “safeguarding American interests,” and a wide variety of “operations,” such as “Operation Just Cause.” Euphemisms for war are one of a broad class of reinventions of language for political purposes. Talleyrand said, “An important art of politicians is to find new names for institutions which under old names have become odious to the public”)

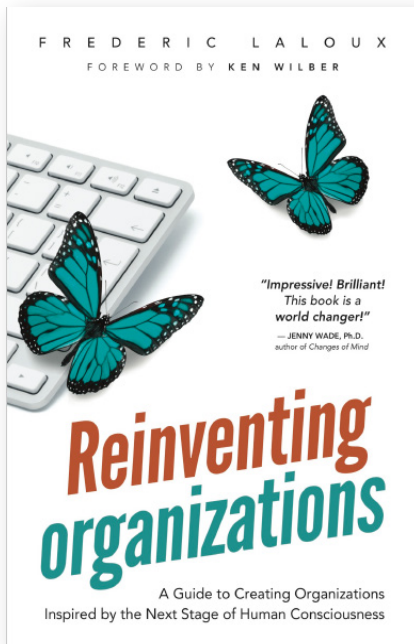
Sagan ends the chapter with a necessary disclaimer:

“Like all tools, the baloney detection kit can be misused, applied out of context, or even employed as a rote alternative to thinking. But applied judiciously, it can make all the difference in the world — not least in evaluating our own arguments before we present them to others.”

Book Review

by Charles Brass

Reinventing Organizations Frederic Laloux



1. WHO IS IT FOR?

The book is a resource to help forward thinking leaders and CEO's, team coaches, Human Resources and everyone interested in developing more self-managed organizations with less bureaucracy.

It's an objective analysis written in an academic, yet conversational style. It analytically and objectively evaluates the structure and elements of organizations, yet touches on holistic concepts and spiritual practice. It's for the more open-minded reader looking at the next phase of organizational development.

1. WHAT'S INSIDE?

The book consists of three parts, the first focused on drawing a comparison between organizational development throughout history and developmental psychology. The second part fleshes out what a Teal Organization looks like based on case studies from different organizations, and the final part looks at what conditions are needed for such an environment to exist and thrive.

It's a practical handbook and analysis of how "developed" organizations look like and how it is run.

The book starts with a history of organizational development, comparing each major shift in organizational development to a specific color, starting with red,

moving on to amber, then orange, green and finally teal as briefly described below.

Red organizations are described as impulsive and mostly driven by fear, taking what is wanted as the impulse arises with not much thought as to the impact on others inside or outside the area of influence.

Amber organizations brought structure and thus repeatability to an organization, introducing roles for the first time in the history of organizations. This meant that an organization can continue operating without being dependent on a specific person or leader.

Orange, the dominant structure of organizations today, are compared to a machine, focused wholly on profits and results, viewing people as cogs in a wheel that need to be told when to do what. Even the name human resources are indicative of this perspective, viewing people as a replaceable resource to be managed. This paradigm brought accountability and the concept of meritocracy to organizations, allowing each person, regardless of their caste or background, to rise to the top of an organization.

Green organizations are typically identified in the non-profit sector, focused on values based leadership and consent by everyone in

the team. They brought the concept of empowerment and diverse stakeholders rather than shareholders as the only important investor in an organization. It lifted up the importance of the workers and broke down the top-down hierarchy of the typical orange bureaucracy.

Finally, Teal organizations add an element of wholeness to organizations, balancing the orange vertical structure and green horizontal structure into a well-balanced self-managed structure where focus shifts from profit to purpose.

The book goes into extensive detail as to what the such organizations look like. It is filled with real life interviews with successful self-managing organizations of more than 100 employees and operating more than 5 years. Most of these organizations, even though their focus is on an evolutionary purpose, seems to be more profitable than the profit-focused orange industries. Case study after case study points to how accidentally the growth and profit seem to be when the focus is on something bigger than making money.

The focus of the book is comparing the structures and practices of orange organizations, our current dominant bureaucratic operating mode for managing organizations, and teal organizations, which bring an element of wholeness and self-actualization — the highest level in Maslow's hierarchy of needs model — to organizations, reducing the layers of hierarchy towards self-managing teams with no, or at least very little, centralized support functions. Throughout the book

comparisons are drawn between scientific studies and academic works, making it a believable read rather than a far-fetched ideology.

It also touches on what is needed for a transition and includes some failed transitions explaining the reason for the failure, mostly always directly related to the leadership team.

THE WRITING STYLE

The book is an easy and interesting read, written mostly in a conversational style, explaining concepts well and from many different angles.

Each analysis is summarized into tables, making comparisons between the different paradigms easy to comprehend and compare.

It is easy to point out what makes Teal organizations different to Orange organizations, clearly showing the additions and differences between the two and what Teal organizations add to the already successful age of Orange companies.

1. I LIKE, I WISH, I WONDER...

The content is original, fresh and interesting. As an avid reader, it is not often that I stumble upon a book with entirely new ideas. This definitely feels “new” and unique with only a handful of organizations currently considered Teal.

The case studies and detailed recollections of the interviews with the different organizations are extremely helpful. Each section takes into account at least two or three different organizations to explain how they operate.

Similarities are drawn between different types of organizations,

making the book accessible to everyone, not limiting the implementation to only a specific industry or demographic group.

The list of interview questions right at the end is an extremely useful resource, allowing anyone to evaluate and analyze the operating mode for their organization and might even be turned into a checklist.

The structure of the book is both an aid to reading and an impediment. The different functions are well-defined and broken down into different sections that are easy to find for the busy reader or someone looking for specific contents without having to re-read the entire book, yet, this also means that there are a lot of points that are repeated, making the last section of the book less interesting.

What's missing for a more complete resource is more details on how to transition towards such an organization to enable more organizations to reach this state in the evolution of organizations. The majority of the book focuses on looking at experiences of existing Teal Organizations and although it does touch on the transitions, it is not in enough detail for organizations to action. A lot of the guidance provided is from the perspective of a leader who is already in this evolved state of leadership, making it inaccessible to a leader on a lower evolutionary state to understand what they can do differently to change.

The characteristics of a Teal leader is not explained or discussed and there are only end-states described, not a strategy for a successful transition.

Finally, I love the pay-what-feels-right model of pricing, as not only does it make the book more accessible to people who can't afford expensive books, but more importantly, provides direct feedback to the author with regards to the perceived value of the contents. The more people are willing to pay, the more useful they find the contents.

1. CONCLUSION

Reinventing Organizations is an insightful, fresh read re-evaluating how organizations are structured and run. It introduces a more "whole" type of organization where there is an integration of soul and role, rather than a separation as is often the case in Orange organizations.

A must read for anyone that feels agile has reached it's limits and looking for what is next.

The only software development company included in the case studies are Halocracy, with the difference between any agile book and this that the focus is on the organizational structure, not the method of operation.

1. ABOUT THE AUTHOR

Frederic Laloux has an educational background in coaching and an MBA from INSEAD. He advises companies on how to run organizations in new ways, as explained in the book.

He is deeply fascinated with human development and it is the marriage of this fascination and his deep understanding of the inner workings of organizations as a result of years working as a consultant, that created this new paradigm in leading organizations.

FUTURISTS IN ACTION

ON BECOMING A PROFESSIONAL FUTURIST

by Alireza Hejazi, Ph.D.



Futures thinking is a dynamic cognitive ability possessed by individuals and fundamental to foresight. Professionally, it operates by replacing prediction with focusing on strong and weak signals and developing well-informed strategies. It requires looking back to see forward, detecting patterns, and making decisions. Futures thinking may be used to create better futures for everyone. It assists governments and organizations to use foresight in policymaking about society, technology, environment, economy, policy, and values (STEEP), and their consequences. In today's volatile, unpredictable, complex, and ambiguous (VUCA) environment, companies and societies must think about the future to flourish.

Futurists practice futures thinking professionally. They are concerned with the future of humanity on Earth and perhaps on other planets, including Mars. Professional futurists use futures thinking to imagine alternate futures and assist their clients in anticipating and influencing the future. Becoming a professional futurist necessitates an understanding of oneself and one's surroundings. It is more than just making profits with foresight knowledge and skills. It is about following a professional path motivated by unconditional love for humanity and collaborating with like-minded specialists who take communal futures seriously. Going beyond egoistic impulses and seeing better possibilities for our planet necessitates goodwill and sincerity.

Professional futurists are required to gain soft, technical, and management abilities by participating in the appropriate combination of educational programs (certificate, graduate, and post-graduate levels). They must learn to envisage alternate futures strategically. They must propose practical solutions rather than technical solutions, and they must manage teams to deliver value. Living in 'post-normal times,' a moment of transition marked by complexity, turmoil, and paradoxes, necessitates more forward-thinking than ever before.

Futures thinking necessitates a shift in mindset from tactical, day-to-day operations to becoming more forward-thinking, predicting future requirements and challenges, and sharing best practices acquired from foresight practitioners across sectors. The capacity to influence the future and measure those impacts over time, on the other hand, is both a difficulty and an opportunity. This approach includes the participation of professional futurists. The professionalization of futurists may be considered as the development and maintenance of a set of foresight abilities required to execute foresight professionally and successfully. It includes a set of practice expectations, professional standards, and a foresight ecosystem, as well as professional development routes to offer qualifying credentials. It is concerned with futurists' identity, reputation, and service

I've been considering writing a book to assist aspiring futurists in their professional development. Although there are many good books on foresight and futures studies, I couldn't locate one that walked readers through the steps of becoming a professional futurist. When you decide to become a professional futurist, you will realize that you will need a road map. Many good books discuss futures studies concepts, futures research methods, foresight approaches, and futuring tools. So far, no clear road map has been made accessible to

those who are new to the field of foresight. I discovered that outlining the exact steps that individuals should follow to become professional futurists on a more practical level was extremely needed, especially for futures studies students and graduates who plan to pursue future-oriented careers upon graduation.

Typically, this is accomplished through an internship. An internship, on the other hand, has both perks and downsides. While it allows interns to fine-tune their abilities, it may provide them with few opportunities to expand their knowledge. Internships allow interns to build their resumes, however, they are generally unpaid or undervalued because some organizations prefer to operate their projects for free. Inadvertently and indirectly, this raises the possibility of enslavement during the internship.

After seeing many young men and women who wanted to build better futures for themselves and others but lacked a road map, I decided to write a book. They just wanted to learn how to become professional futurists. I developed *Becoming A Professional Futurist: A Five-Step Approach* as a jumping-off point to offer readers a road map allowing them to know what they need to do to become professional futurists. Through six chapters of this book, I've made deciding on the best path to a career in foresight easy for every reader.



This book assists readers in becoming professional futurists. Readers will discover the essential facts needed for skill development, passion empowerment, and mastery of the foresight profession as a career and a life path. It walks them through the process step by step. Students and graduates of futures studies and strategic foresight may find the book's contents quite useful. Anyone interested in becoming a professional futurist, on the other hand, can benefit from this book practically. This book is a work of reference. It includes actionable advice from top futurists, thought leaders, and career coaches. It aids readers in realizing their aim for foresight professionalization.

The book provides a five-step plan for establishing a successful career as a futurist. Its chapters assist you in organizing your important efforts into five specific steps. First, you learn to determine your career path in foresight. Second, you learn to know yourself and align your self-knowledge with your career path. Third, you learn to design your foresight career and create your business model. Fourth, you acquire the knowledge to create your futurist personal brand. Finally, you know how to expand your reach by developing your network. I've presented a discussion of futurists' professionalization in the second chapter of the book.

If you've chosen futuring as your ideal career, no matter your age or experience, then all of the procedures I've outlined in my book are simple to follow. As long as you prefer self-employment, focusing on your own futurist career might be a sensible choice. If you are a professional futurist, you choose whom to serve rather than seeking to persuade an organization to hire you. This is a more active, but slower, method. However, if you succeed in this procedure, you will be satisfied with your foresight career and life as a professional futurist. This is because by aiding clients, you will be able to spend more time doing what you love.

Signals in the Noise

THE TOP 12 RISKS AND OPPORTUNITIES FOR 2022

By Mathew Burrows and Robert A. Manning

It's been more tug-of-war than clean break, but 2021 will mark the year rich countries began extricating themselves from the COVID-19 crisis. With ongoing vaccination challenges in much of the world and the worrying emergence of the Omicron variant, along with supply bottlenecks plus rising inflation and debt, the pandemic continues to exert its relentless push and pull on a beleaguered world. All the while the formidable geopolitical problems that world was wrestling with pre-COVID—from spiraling tensions between the West and China and Russia to the dearth of international action to counteract climate change—haven't gone away. Just the opposite.

So what will 2022 bring?

Drawing on our many years of experience in forecasting global trends and developments at the US National Intelligence Council, where we were tasked with providing US leaders with long-range analysis and insight, we have identified the top twelve risks and opportunities in 2022 for the world from a US perspective. (Note also what doesn't appear in these lists; potential crises over Taiwan's status or North Korea's nuclear weapons could be catastrophic, but in our judgment these long-simmering issues are unlikely to come to a boil in 2022.) We've ordered the scenarios by importance and assigned each a probability; "medium" means a 50/50 chance that the scenario will occur within the next year.

TOP RISKS

1. The lack of COVID-19 vaccination in developing countries triggers new variants that are potentially more contagious and lethal

Although [a small majority](#) of the world's population has now gotten at least one dose of a COVID-19 vaccine, some regions are in far better shape than others; in Africa, for example, just 12 percent of the population had received at least one dose as of December. Developed countries have largely failed to protect their weaker and poorer counterparts. The COVAX global vaccine coalition, for instance, has distributed just 400 million doses, far short of an [initial 2021 goal of 1.9 billion](#). At the current rate, African populations won't be largely vaccinated until sometime in 2023 or later, which likely will lead to lower economic growth and political instability. Besides reflecting

shamefully on the West's humanitarian values, the large numbers of unvaccinated could prove highly dangerous for Western citizens. The Delta variant, first detected in India and far more contagious than past strains, quickly spread worldwide, overwhelming hospitals in rich countries and even breaching the defenses of those already vaccinated. The Omicron variant, which was first identified in southern Africa, now appears much more contagious than Delta, although its severity has yet to be fully determined. The longer much of the global population remains unvaccinated, the greater the chance of virus mutations that produce more contagious, severe, or vaccine-evasive variants. Even if vaccination coverage greatly increases, many experts believe we should be prepared to live with an [endemic threat](#) from COVID-19.

Probability:



Signals in the Noise

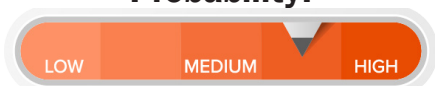
THE TOP TWELVE RISKS AND OPPORTUNITIES FOR 2022

2. Russia attacks Ukraine

Russia's large military buildup near its border with Ukraine has heightened concerns that Russian President Vladimir Putin sees in his neighbor "[unfinished business](#)." Putin [has written](#) that Ukraine is not a true nation and that "Russians and Ukrainians were one people—a single whole." If Putin, who seems increasingly mindful of shaping his legacy, were to act on such instincts, he has a spectrum of options for weakening Ukraine and thus keeping the country in Russia's sphere of influence and as a dependable buffer against NATO. Ramped-up US/NATO political and military support for Ukraine or a near-confrontation in the Black Sea between Russian and NATO forces may tempt Putin to call the West's bluff. Some [observers argue](#) that Russian fears of potential retaliatory measures—such as the cancellation of the Russian Nord Stream 2 gas pipeline to Germany, US sanctions against Russian banks or the secondary market for Russian debt, and increased NATO deployments to neighboring NATO states—would deter Russian military aggression. But in Putin's mind passion to avenge what he sees as US betrayal through NATO expansion in the former Soviet space may override the likely costs of an intervention. In escalating severity, possible Russian intervention scenarios include:

- military threats or aggression to press for negotiated reductions of US/NATO military support for Ukraine and talks on [other issues of contention](#);
- military and economic coercion (taking advantage of Europe's dependence on Russian gas, for instance) to forcibly implement the Russian interpretation of the [Minsk agreements](#), including a Ukraine that remains neutral between East and West and some degree of autonomy for the Donbas region in a federated Ukraine;
- and a full-scale Russian military invasion to seize control of Ukraine and/or put in place a Russia-friendly government.

Probability:



3. As China peaks, its economy sputters—sparking global disruptions

For all the fear of a rising China, its weakness may pose the greatest risk. President Xi Jinping's crackdown first on the tech sector and now on the property sector, which accounts for [some 29 percent](#) of China's economy, highlights the [fragility of the country's economic system](#). The concern is that energy shortages, demographic decline, declining growth and productivity, and debt (exemplified lately by the [beleaguered property giant Evergrande](#) but [running much deeper](#) in a country saddled with total debt that is [290 percent of its gross domestic product](#)) reflect an [outdated economic model](#). Yet Xi may see needed market reforms promised in 2013, but then rejected, as too difficult politically to implement. Instead, the Chinese Communist Party (CCP) [has opted for](#) bolstering state-owned enterprises and control of the private sector—despite private firms serving as a major source of growth and innovation in the past. Some national-security analysts [fear](#) that Xi may compensate for lower growth with a more aggressive military policy toward Taiwan and beyond in order to shore up the CCP's nationalist legitimacy. But an economically struggling China could also unravel global stability: China has driven some [30 percent of global growth](#) for the past decade. As well as being more confrontational, a weak China could thus tank economic growth around the world, while disrupting financial markets and supply chains. The attendant lost wealth and jobs could spark unrest and/or intra-party turmoil in China as well.

Probability:



4. Afghanistan collapses, and the United States can't escape its consequences

Afghanistan is enduring an unprecedented humanitarian crisis, and possible state collapse looms in 2022. According to the United Nations' World Food Program (WFP), [23 million Afghans](#) faced imminent starvation

Signals in the Noise

THE TOP TWELVE RISKS AND OPPORTUNITIES FOR 2022

before the winter—forecast to be severe—even began. It is difficult for the World Bank and other development agencies to directly assist Afghans due to the country's chaotic payments system and international prohibitions on aiding the Taliban. The United Nations warns that Afghanistan's [banking system](#) may be nearing collapse, [endangering humanitarian-relief efforts](#). The Afghan economy (except the drug trade) is [at a standstill](#), after the US exit cut off some \$8.5 billion a year (40 percent of the country's gross domestic product) and the International Monetary Fund froze some \$9 billion in foreign assets. The Taliban is contending with rival jihadist groups such as the Islamic State, raising the risks of increased terrorist activity around the world—including possible attacks against US interests as well as those of Russia and China. According to the [United Nations](#), there are now at least 2.6 million Afghan refugees—mostly in Iran and Pakistan—and another 3.5 million internally displaced people, and the worsening situation in the country could propel more refugees to Europe.

Probability:



5. Developing countries suffer more severe economic troubles and a rash of political instability

The second-biggest casualty from COVID-19—after the more than five million people who have died from it—is the global middle class. The [Pew Research Center](#) estimates that the pandemic-induced recession left 131 million more people in poverty. Even those who have managed to hang on to the middle class in the developing world are poised to confront spiraling economic insecurity due to the political and economic aftershocks of the pandemic, which will continue to range for some time in many of these countries. [India](#), which has shed 32 percent of its middle and upper-middle classes combined, could finish 2021 with a gross domestic product that's 5.2 percent smaller than it would have been without the pandemic. Rising inflation in the United States and Europe threatens to

further destabilize economies in the developing world at a time when they need to recapture lost growth. If the Federal Reserve and European Central Bank raise interest rates to counter inflation, past patterns suggest that capital will swiftly leave poorer countries for higher returns with less risk in richer countries. These countries would then face a Catch-22: [As the economists Rabah Arezki and Jean-Pierre Landau wrote](#) for Project Syndicate, "Policymakers can either let their currencies depreciate, which would fuel inflation, or hike interest rates, which would adversely affect growth and debt sustainability." The international community will need to inject funds into poorer countries to stabilize their currencies and help them navigate a dangerous period. Without such help, political instability will gather momentum, bringing down several governments.

Probability:



6. Oil tops \$100 per barrel

Predicting boom/bust cycles in the oil market is always hazardous. There are conflicting forecasts, with the US Energy Information Agency [foreseeing a drop](#) from a price of eighty-four dollars per barrel of Brent crude oil this fall to sixty-six dollars per barrel by this time next year, while many private-sector [analysts](#) and hedge funds are betting on a prolonged price spike. The proximate causes of the current price increase are the 2021 surge in demand after a pandemic-driven drop, limited production hikes by the Organization of the Petroleum Exporting Countries (OPEC), and the effects of several years of declining investment in oil and gas. An [insightful recent study](#) highlights new risks posed by longer-term structural changes in the energy industry—from inflation, recession, and debt defaults to energy-security concerns—as OPEC and Russian state-owned oil firms dominate investment and production, and thus the geopolitics of oil, amid a protracted global transition to clean energy.

Probability:



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7. The world fails to meet its climate goals from the inconclusive Glasgow summit

Global carbon emissions have grown by 60 percent [since the Kyoto Protocol](#) was signed in 1997, and the climate-change accord from this year's twenty-sixth UN Conference of the Parties (COP26) in Glasgow doesn't assuage concerns about the risks of accelerated climate change or the likelihood of achieving the goal of curbing average temperature rise to less than 2 degrees Celsius above pre-industrial levels. Prior to COP26, if all pledges from the 2015 Paris climate deal had been met (few were), global temperatures were still [projected to rise](#) 2.7 degrees Celsius by 2100. World leaders projected a new seriousness at COP26, with its final agreement calling for the "phasing down" of coal and separate agreements aiming to slash deforestation and methane emissions, establish global rules for carbon trading, and foster US-China climate cooperation. Despite this progress, [the pledges were all characteristically vague](#). The International Energy Agency has issued a [detailed roadmap](#) for reaching net-zero emissions by 2050, which will require an end to new oil and gas projects by next year—along with a tripling of investment in solar and wind energy to \$4 trillion and a quadrupling of investment in smart grids by the end of this decade. Such progress is technically possible, but politically highly improbable absent dramatic new action well beyond what was agreed to at COP26.

Probability:



8. A bifurcated world emerges, but it's not a repeat of the Cold War with the Soviets

Washington has fallen in love with the idea of re-running the Cold War, undoubtedly with the same ending of the West triumphing. Some focus on what's different between the economically anemic Soviet Union and today's omnipresent China—a top economy and major high-tech innovator, along with its status as the

world's number-one trading power and [capital exporter](#)—should cause the Beltway to rethink the merits of a bifurcated world. The Chinese economy has grown so interdependent with US and Western economies that all would suffer in such a world. China was America's [largest trading partner](#) for goods last year, at \$559.2 billion, and [Wall Street](#) is also getting in on the action, with BlackRock raising one billion dollars in September for China's first foreign-run mutual fund.

Meanwhile, Chinese leaders are frantically trying to [de-Americanize China's supply chains](#). China's biggest vulnerability is its lack of a high-tech chip industry. But since cutting US supplies would hurt American manufacturing, the Biden administration has been hesitant to hit Beijing there. Should the [gloves come off](#)—as [some in Washington](#) advocate—it's unlikely that China will be brought to its knees. What could instead result is a bifurcated world where we are all poorer and more prone to conflict. US businesses would miss out on new opportunities in China and perhaps elsewhere in Asia. The division would also come in the form of digital blocs, producing a race to the bottom and different standards concerning robotics, quantum computing, artificial intelligence (AI), and bioscience (such as CRISPR gene editing). The notion that Europe would follow the United States down this road is dubious given the dependence of Germany and others on trade with China, twined with the European Union (EU)'s preference for using regulation to address Chinese practices it disagrees with rather than decoupling economically from China. In a Cold War with China, happy endings are far from guaranteed.

Probability:



9. Food insecurity worsens, propelled by COVID-19, climate change, and conflict

As we [warned last year](#), a combination of the pandemic, extreme weather, and violent conflict is stoking food insecurity. Fifteen million more people are now at risk of starvation relative to before the pandemic

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started in 2019, according to the World Food Program. In November, [the WFP warned](#) that forty-five million people are on the brink of famine across forty-three countries, with higher food and transportation costs straining the budgets of families and aid organizations alike. One of the main drivers of this year's increase has been the humanitarian catastrophe in Afghanistan, which is now home to the world's worst food crisis. Over the next decade, the [World Bank has said](#) that food systems need a \$300-350 billion per year "transformation" to reduce greenhouse-gas emissions and protect the environment while also feeding a world population set to grow to ten billion by 2050.

Probability:



10. More countries slip from their current fragile state into failure

The countries at the top of each year's [Fund for Peace Fragile States Index](#) rarely change. Yemen, Somalia, and Syria (in that order) reappeared again on its 2021 list under "very high alert," and many would argue that they have tipped over into [state failure](#). Even some of the countries in the next tier of "high alert" are close to if not already experiencing state failure: South Sudan, Democratic Republic of Congo, Central African Republic, Chad, Sudan, and Afghanistan. Worryingly, such large countries as Ethiopia and Nigeria are not too far behind—and their collapse would trigger major regional convulsions. It's clear that the underlying conditions that we know cause state failure are worsening and metastasizing in these countries. Propelled by increasing drought and water scarcity, a food crisis (see above) is spreading; without [vast investment in more capable food systems](#), we should expect such crises to occur well beyond the highest-alert countries. [Armed conflicts](#) are also becoming increasingly protracted, intense, complex, and dangerous to civilians. COVID-19 is an added burden, increasing the [poverty rate in many poorer countries](#) and [pushing debt to](#)

[record levels](#). It's easy to become inured to doomsaying, but in 2022 the dismal outlook looks warranted.

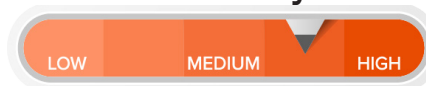
Probability:



11. Western efforts to revive the Iran nuclear agreement fail

The Iranian government has issued [escalating demands](#) for the United States to ease sanctions and grant assurances prior to Tehran assenting to a new deal to curb its nuclear program, even as the regime [increases its nuclear-enrichment efforts](#). Israeli cyberattacks on Iranian nuclear facilities—and Iran's response to those activities—are escalating. Congressional pressure is building on President Joe Biden to impose tougher sanctions on Iran and to take action against Iranian sanctions-breaking activities such as oil sales to China. Military action against Iran's nuclear program by the United States or Israel cannot be ruled out. Iran, meanwhile, has the ability to conduct drone and missile attacks against Gulf oil facilities and US military bases—and to use Hezbollah or other surrogates to engage in a shadow war with Israel. If tensions deepen, there's always the chance that miscalculations or inadvertent clashes lead to a major military confrontation with Iran.

Probability:



12. US democracy further decays

The coming year is shaping up to be one in which American democracy erodes significantly. Freedom House's [2021 report](#), which documented a global democratic retreat, highlighted an 11-point decline in its freedom score for the United States over the past decade—putting the country among the roughly two dozen nations with the steepest declines over that period. The organization cited the January 6 attack on

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the US Capitol, which sought to overturn the 2020 presidential election based on false claims of election fraud that are still promoted by ex-President Donald Trump and have been adopted by much of the Republican Party. [Polls](#) suggest that some 70 percent of Republican voters, and 30 percent of voters overall, believe that Biden was not legitimately elected, despite all evidence to the contrary. As social-media-borne disinformation and conspiracy theories abound, the country's political divide appears to be widening ahead of the 2022 elections—with each side seeing the other not as opponents but as enemies. An alarming number of Americans now [view violence](#) as acceptable, including nearly a third of Republicans. Gerrymandering and new election laws in [at least nineteen states](#), some [empowering more partisan state legislatures](#) rather than state election officials to determine election results, could tilt outcomes. With the [GOP positioned](#) to retake the House and possibly the Senate in 2022, America's polarization and sectarian tensions look poised to only increase.

Probability:



This is the first part of a two part article. The second part – 12 Opportunities for 2022 – will be featured in the June 2022 edition of Future News