



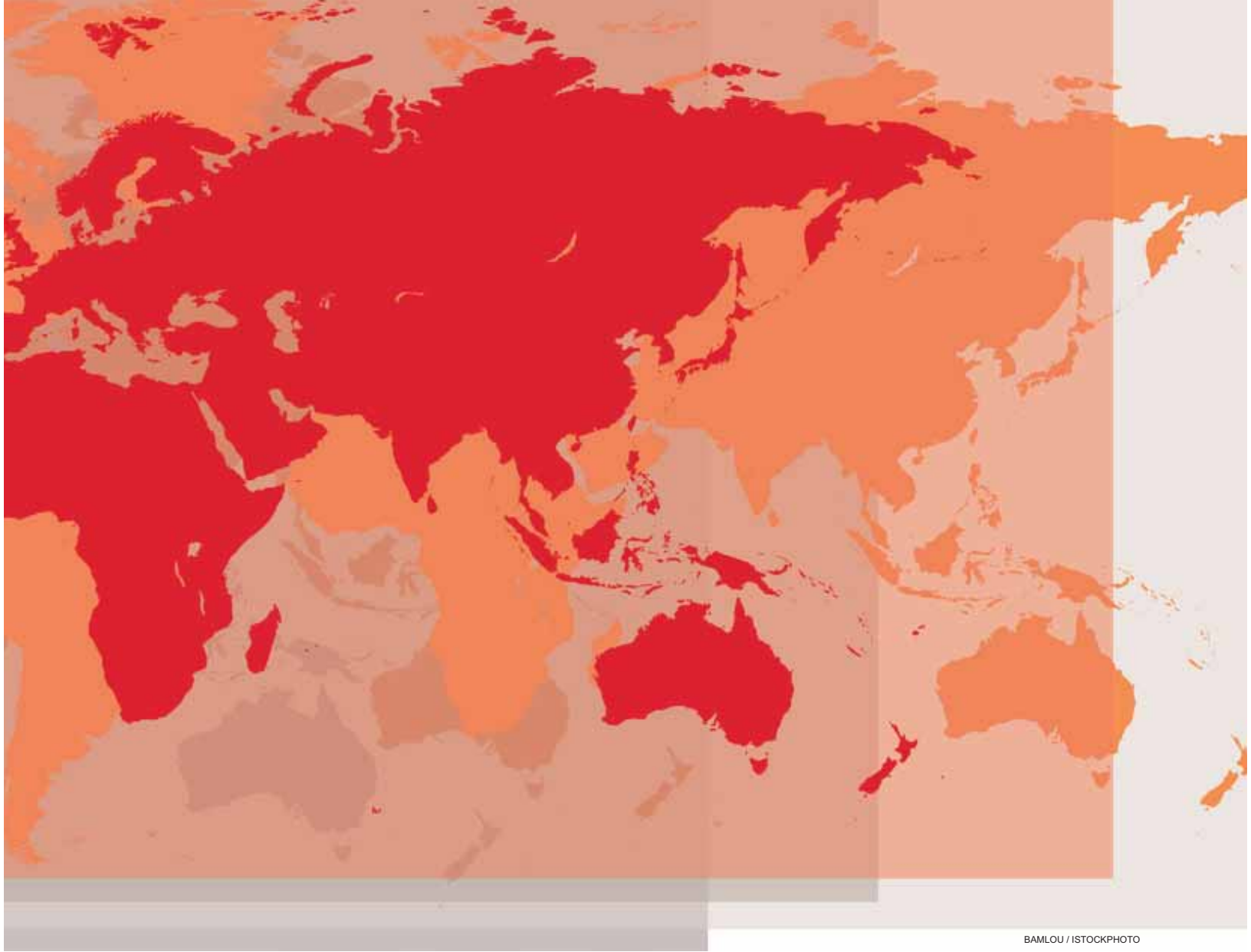
By William E. Halal and Michael Marien

Global MegaCrisis

Four Scenarios, Two Perspectives

Two futurists map out the convergence of multiple global challenges, offering divergent viewpoints—one optimistic and one pessimistic—on the likelihood of successfully meeting these challenges and turning them into global progress.

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Killer pandemics, financial meltdowns, runaway global warming, environmental decay, nuclear war, cyberdisasters: These catastrophes are becoming increasingly routine headlines. But as the mainstream press focuses only on individual extreme events, attention is drawn away from an issue far more complex: the convergence of multiple problems into a Global MegaCrisis. This article offers an explanation of this complex issue, as well as four plausible scenarios based on how we and our institutions approach it.

The Global MegaCrisis cuts across all sectors in an era of multiple transformations. The Iraq War demonstrated the limits of U.S. military power, and the 2008 global financial crisis highlighted the limits of deregulated markets. With these founda-

tions of the old global order shaken badly, the growing threat of climate change, looming energy shortages, huge government deficits, terrorism, and a host of wild cards now form a complex interplay of destructive forces that are straining established systems to the breaking point. These multiple threats converge like a multi-vehicle freeway pileup in slow motion. If it had not been bad mortgages and arcane derivatives, other driving forces in these complex systems might have caused roughly the same type of global failure. And more failures seem all too likely.

The Global MegaCrisis: What Is It And What Does It Look Like?

The MegaCrisis, simply defined, is a global environmental and eco-

nom ic collapse or near collapse, along with attendant problems of rising prices, mass protests, widespread psychic stress, and lawlessness. We present the following tentative outline to better paint a picture of what MegaCrisis might look like.

Some Trends Driving the MegaCrisis

- **Climate Change, No Matter**

What. The year 2010 marked the hottest year (and decade) on record. The world has already seen a 1°F temperature rise, and an additional 4°–6° rise is likely even if all proposed actions are taken. Expect possibly 10°F in the next few decades if greenhouse gases keep growing. In addition, the projected sea-level rise in the 2007 Intergovernmental Panel on Climate Change (IPCC) report was 16 inches by 2100; now it is about three to six feet by 2100.

Complicating this first point is the fact that reducing CO₂ is costly. The science indicates that greenhouse gases must be reduced by 60% from 1980 levels to avoid severe climate change. This would cost roughly \$20 trillion, or about 1% to 3% of global GDP, if done soon, but would be far more costly if done later. The problem is even more daunting because most developing nations are likely to industrialize, and most industrialized nations are likely to grow, increasing all these threats over the long term.

- **Political Will to Reduce CO₂ Is Lacking.** There are as yet no global agreements that would decrease carbon emissions significantly. Meanwhile, China, India, and the United States are planning to build a total of 850 coal-fired plants, adding five times as much CO₂ to the atmosphere as present treaties intend to reduce.

- **Methane May Be Worse Than CO₂.** Keep your eye on methane, a potent greenhouse gas that is 23 times worse than CO₂, although it doesn't stay in the atmosphere as long. Large quantities of methane are being released from thawing tundra in the Arctic region, and still larger quantities may be released from icelike methane clathrates on the ocean floor in coastal areas.

- **Freshwater Is Becoming More Scarce.** Nearly a billion people lack clean water, and 2.6 billion lack good sanitation. Water tables are falling on all continents, and the World Bank estimates that, by 2025, half of the world population could face water scarcity due to climate change, population growth, and increasing demand for water. Unless major changes occur, global water shortages are likely to cause mass migrations, higher food prices, malnutrition, and major conflicts.

- **Recession Likely to Last for Years.** The Great Recession that began in 2008 is often compared to the Great Depression of 1930, which lasted until 1940. The International Monetary Fund forecasts growth for the next two years at slightly above 2% in developed nations, although it should remain at 8% in the developing world. Some economists think unemployment rates between 8%

"Suddenly, many of the concerns we were forewarned of over recent decades are at hand."

and 9% are quite likely for several years, much like Japan's "lost decade" in the 1990s.

- **Severe Institutional Failures.** The near collapse of the world's financial system in 2008 highlighted structural failures in the financial industry, government, and other institutions. A study of 1,500 CEOs noted: "The world's leaders think their enterprises are not equipped to cope with complexity in the global environment." Nobel Prize-winning economist Joseph Stiglitz wrote, "The financial collapse may be to markets what the Berlin Wall was to Communism."

- **Cyberwarfare/Cyberterrorism.** Computer hacking is growing, commensurate with the boom in global e-commerce. U.S. military networks, nuclear facilities, banks, air-traffic control systems, and electrical grids are under constant attack. The U.S. Naval War College was shut down by hackers for more than two weeks in 2006. The threat is so great that one expert suggested installing "cyberwar hotlines" similar to the special phones that the United States and Soviet Union used to avoid nuclear Armageddon.

- **Weapons of Mass Destruction.** The old status quo of MAD (mutually assured destruction) may have kept two superpowers locked in a stalemate, but it is no longer viable with nine contending nuclear powers (and more likely to emerge, including terrorist groups). Between 1993 and the end of 2009, the Illicit Trafficking Database recorded 1,784 nuclear trafficking incidents.

Suddenly, many of the concerns we were forewarned of over recent decades are at hand. The future is arriving—and with a vengeance. There is a palpable and widespread fear that the present world is unsustainable and that events could easily spin out of control. Scientists are convinced that a 60% reduction in carbon-dioxide emissions is needed to stave off ruinous climate change, but achieving that goal looks so unrealistic that many are girding to

withstand a significant rise in sea levels, scorching heat, withering droughts, and more extreme weather patterns. Policy makers in major world capitals, including Washington, are seriously considering geo-engineering the planet as a last-ditch effort to stave off disaster. The MegaCrisis represents what could occur if the human species fails to transform its economies, technologies, politics, and lifestyles into something more sustainable within the next two decades.

Debating the Global MegaCrisis And Its Outcomes

With these political, financial, and ecological crises threatening the world, the two of us engaged in a spirited e-mail discussion, later published in *World Future Review* ("Letter to the Editor: A Dialogue Between William E. Halal and Michael Marien," June-July 2009). We then published a survey on TechCast.org to encourage discussion and to learn what others think. The survey summarizes our differing views and asks TechCast experts and visitors to evaluate the severity of the Global MegaCrisis and the probability of four alternative scenarios.

The four scenarios run along a single axis from pessimistic to optimistic. This enables us to focus on alternative outcomes for the entire world or entire societies moving through a period of crisis.

Scenario 1: Decline to Disaster

The world fails to react to the Global MegaCrisis in time. Indecision reigns due to too many choices, too many entrenched interest groups, and too few resources to make necessary changes. Huge government deficits persist, leading to failures of public services and an inability to make crucial transition investments in energy, education, and infrastructure. Governments are unable to reform financial systems, curb global warming, reduce military spending, or conquer deficits.

Most corporations remain focused on short-term profit. Technological advances are shelved, delayed, controversial, or fail to help. Climate change accelerates, thanks in part to large amounts of methane complementing the carbon dioxide being released into the atmosphere, resulting in more extreme weather events, massive migrations, and crop losses.

The bottom line: a global economic depression, crippling energy shortages, ecological collapse, local and regional wars, rampant terrorism, crime, corruption, and more.

Scenario 2: Muddling Down

Halfhearted, inadequate actions result in the apparent paradox of a high-tech dark age. Political stalemates, general ignorance about the complexity of the problems, and lack of resources stymie all but the most modest changes in financial systems, governance, energy, and education. The promise of new technologies is only partly met, and pollution and population pressures continue as the world population passes 7 billion in late 2011. The effects of climate change become even more extreme. Meanwhile, recovery from the Great Recession is slow and uneven, and the number of failed states rises. Local wars and terrorist attacks increase.

Despite claims of progress by political and corporate leaders, high unemployment persists and the quality of life declines for most people.

Scenario 3: Muddling Up

Governments and corporations act slowly, but with increasing knowledge. Mounting threats spur generally successful efforts. Far more sophisticated information technology (IT) and artificial intelligence (AI) provide powerful technical capabilities to help counter the challenges. The sense of urgency builds as problems increase, so public attitudes shift enough to favor needed changes, and reasonably good leadership is able to provide guidance. There are relatively minor disasters along the way but little that is catastrophic for an entire region or the planet. A rudimentary but functioning global order emerges to manage

this advanced society in time to avert widespread disaster. Many new problems arise nonetheless, but most are adequately addressed.

Scenario 4: Rise to Maturity

The transition to a new global order is made quickly and easily. Governments and corporations act wisely and with determination, and are supported by the majority of people. The world surpasses the United Nations Millennium Development Goals of halving poverty by 2015, and many countries approach ecological sustainability (at least as it is currently defined). A conversion to clean, renewable energy happens quickly and provides a solid boost to many national and regional economies.

Early Survey Results

As of January 2011, our exploratory survey has been completed by 60 responders, and more replies are coming in. It's not a random sample; these are smart and thoughtful people. Here is the breakdown of responses to the initial question, "How severe is the potential threat posed by the Global MegaCrisis?"

Table 1. Severity of the Potential Threat

Severity	Respondents (%)
Catastrophic (Decline to Disaster) Could be the end of civilization for many if not all	22%
Severe (Muddling Down) Major declines in central aspects of life	60%
Bad (Muddling Up) Serious challenges likely to be met in time	13%
Overblown (Rise to Maturity) Problems greatly exaggerated; technology and the market can handle them	4%
Don't Know / Too murky and can't even make a guess	2%

Table 2. Probability of Four Scenarios

Scenario	Probability (%)
Decline to Disaster World fails to react, resulting in accelerated climate change, widespread energy and water shortages, economic depression, conflict, etc.	25%
Muddling Down World reacts, partially, but problems continue to outdistance policies and technologies. Ecological damage continues, as does increased poverty, inequality, and conflict.	35%
Muddling Up World reacts out of need. Policies and technologies help make headway on problems. Widespread disaster avoided, but many problems remain.	28%
Rise to Maturity World transitions to a humane and responsible global order.	12%

We also asked respondents to estimate the probability for each of the four scenarios along the pessimism-optimism axis. This question frames the issue differently, but produces roughly the same general results: a 60% probability for the two most pessimistic scenarios, compared with a 40% probability for the two most optimistic.

The rough timetable for these four scenarios is estimated as follows. Note that the Muddling Down scenario is thought to occur earlier than the others; indeed, some think it has already begun.

Here are the dates that respondents suggested:

Table 3. Mean Arrival Dates

Scenario	Year
Decline to Disaster	2029
Muddling Down	2023
Muddling Up	2027
Rise to Maturity	2033

Many respondents identified the key problems as chronic failures in governance, leadership, and cultural

attitudes. They also believe that, despite such failures, humanity has a proven capacity to survive, usually by muddling up.

**Halal's Analysis:
The World Is Entering an
Advanced Stage of Evolution**

Despite the enormity of the challenges, there is reason for hope. Advanced IT, along with the rise of green technologies and other new industries, will help spur an economic upcycle starting about 2015, and it is likely that the Global MegaCrisis will be largely resolved by 2020. That is why I rate the four scenarios as follows: Decline to Disaster, 10%;

Muddling Down, 25%; Muddling Up, 60%; Rise to Maturity, 5%.

The forces involved are so historic and powerful that a long-term evolutionary perspective is necessary to understand what is taking place. Our work at the TechCast Project shows that the Global MegaCrisis is the inevitable result of high-tech globalization that is causing what we call a "global crisis of maturity." This is a critical growth phase in the life cycle of the planet, marked by unprecedented transition points in climate change, energy consumption, economic systems, and all other facets of an emerging global order. We also believe that the relentless advance of information technology is

Recently Published Books Other perspectives on the Global MegaCrisis

To provide a broader sense of the MegaCrisis, we offer a summary of the problem as seen by a variety of prominent futurists and other writers.

It is important to realize that there is no shared language on the general global condition. Nor is there any shared approach. Some writers use a balanced perspective that looks at both pessimistic and optimistic indicators, but most decidedly take one side or the other. Here is a sampling of both general overviews and one-sided views.

Perhaps the best starting point is the "State of the Future Index" in the Millennium Project's annual *State of the Future* report, assembled by Jerome C. Glenn, Theodore J. Gordon, and Elizabeth Florescu (The Millennium Project, 2010). The Index reviews 30 trends to provide a "report card for humanity," divided into four categories: where we are winning (improved literacy rate, more Internet users, improved life expectancy, etc.), where we are losing (fossil fuel emissions, unemployment, terrorist attack casualties, etc.), where there is little change (HIV prevalence, for example), and where there is uncertainty (infectious diseases, for example). How the trends are weighted is problematic, however, and there is doubt as to whether the 30 indicators cover all essential developments.

A recent report prepared by the Rockefeller Foundation, along with Peter Schwartz and the Global Business Network, parallels somewhat the four single-axis scenarios presented in our article. *Scenarios for the Future of Technology and International Development* (2010) provides four scenarios for the next decade or so in a 2x2 matrix along two axes: strong versus weak political/economic alignment, and low versus high adaptive capacity. The scenarios are "Hack Attack" (an unstable

and shock-prone world, with weak governments, thriving criminality, and dangerous technologies), "Lock Step" (tighter top-down government control after a 2012 pandemic, with limited innovation and growing citizen pushback), "Smart Scramble" (an economically depressed world, with local makeshift solutions and "good enough" technology addressing a growing set of problems), and "Clever Together" (a world of highly coordinated and successful strategies addressing global issues). A free PDF is available at www.RockFound.org; Global Foresight Books selected this as its Book of the Month for November 2010.

Essential reading, as always, is provided by Lester R. Brown, founder of the Earth Policy Institute, in *World on the Edge: How to Prevent Environmental and Economic Collapse* (W.W. Norton, 2011). He warns that "ecological and economic deficits are now shaping not only our future, but our present. ... [T]he 'perfect storm' or the 'ultimate recession' could come at any time."

In *The Great Disruption: How the Climate Crisis Will Change Everything (for the Better)* (Bloomsbury USA, 2011), Paul Gilding, a faculty member of the Cambridge University Program for Sustainability Leadership, sees loss, suffering, and conflict in the coming decades, as our "planetary overdraft is paid," but believes that compassion, innovation, resilience, and adaptability will win out.

John L. Petersen, founder of The Arlington Institute, focuses on a wide range of converging global trends, breakdowns, and breakthroughs in *A Vision for 2012: Planning for Extraordinary Change* (Fulcrum, 2008), concluding with an exploration of various possibilities after a massive catastrophe, ranging from a failed global system to a new world of global cooperation and har-

driving a transition to an advanced stage of civilization powered by new technologies, interrelated global systems, adaptive social institutions, mounting knowledge and intelligence, and global consciousness.

By combining our 70 forecasts of technology breakthroughs, we are able to produce “macroforecasts” that suggest that the Muddling Up scenario could occur in about 10 years, give or take three years. Worldwide e-commerce is likely to take off in about five years to form a rudimentary version of the “global brain” that futurists have long anticipated. Around 2020 or so, we are likely to see second-generation computing (optical, nano, bio, and quan-

tum) and artificial intelligence that can automate routine knowledge.

These developments will enable people to concentrate on values, beliefs, ideologies, and other higher levels of thought and to focus most of their attention on solving crucial global challenges. This constitutes the next logical phase in the progression of society from agriculture to manufacturing, services, knowledge, and even consciousness itself.

The central role of IT/AI is a game changer because it shifts the relationship between humans and machines in profound ways. Contrary to the assertion that AI will surpass human abilities, AI liberates us from mental drudgery and releases the unique

human capability for higher consciousness at the very time that the world faces unprecedented challenges. This is hardly a coincidence, but rather the playing out of historic forces in the evolutionary cycle. Sure, there will be lots of information overload and confusion, because the world is struggling to take responsibility for its future or suffer enormous consequences. However, pollster John Zogby’s research shows a “fundamental reorientation of the American character: away from wanton consumption and toward a new global citizenry in an age of limited resources.”

Events are likely to culminate around 2020, when we expect IT/AI

mony with nature. His brief version, “A New End, A New Beginning,” appears in the World Future Society’s 2009 conference volume, *Innovation and Creativity in a Complex World*.

Another and still broader view of world-scale systems crises and civic collapse by the 2020s, to be followed by “our maturity as a species,” is provided by Duane Elgin in *The Living Universe* (Berrett-Koehler, 2009).

Acceleration: The Forces Driving Human Progress by Ronald G. Havelock (Prometheus Books, 2011) makes a strong and thoughtful case for long-term progress of humanity, and a somewhat successful attempt to address various “fears for the future.” However, the 15-page annotated bibliography is a bit spotty, with favorable comments on Julian Simon and John Naisbitt, negative reviews of Paul Ehrlich and the 1972 *Limits to Growth* report, and no consideration of Lester R. Brown and current thinking of the vast majority of climate scientists.

An upbeat view looking beyond the Great Recession is provided by urbanist Richard Florida in *The Great Reset: How New Ways of Living and Working Drive Post-Crash Prosperity* (Harper, 2010). This is countered with the grim view of *Dystopia: What Is to Be Done?* by Canadian sociologist Gary Potter (CreateSpace, 2010), who sees capitalist-driven disaster already afflicting at least one billion people and coming soon for the rest of us.

Collapse: How Societies Choose to Fail or Succeed by UCLA geography professor Jared Diamond (Penguin, 2005) was a best-seller for more than six months and is still relevant. *Our Final Century: The 50/50 Threat to Humanity’s Survival* by UK Royal Astronomer and Cambridge professor Martin Rees (Basic Books, 2003) covers

a broad range of science and technology risks and is also still very relevant.

Severe climate change scenarios in particular deserve our attention. *Climatic Cataclysm: The Foreign Policy and National Security Implications of Climate Change*, edited by Kurt M. Campbell of the Center for a New American Security (Brookings Institution Press, 2008), offers three plausible scenarios: Expected Climate Change by 2040, Severe Climate Change by 2040, and Catastrophic Climate Change in the 2040-2100 period, as average global temperatures rise to 5.6°C above 1990 levels.

In a more popular style, former U.S. Assistant Secretary of Energy Joseph J. Romm provides three scenarios in *Hell and High Water* (Morrow, 2007) on developments in three periods: 2000-2025, 2025-2050, and 2050-2100 (when a sea level rise of 20–80 feet will be “all but unstoppable” if current trends continue). A longer-term view of our world in 2050, 2100, and 2300 is enabled by University of Washington geologist Peter D. Ward in *The Flooded Earth: Our Future in a World without Ice Caps* (Basic Books, 2010), who argues that sea-level rise will happen no matter what we do.

Our own previous contributions to thinking about the MegaCrisis include *Democracy in the 21st Century* by Michael Marien (*Future Survey Mini-Guide #3*, 2008), on problems of democracy and today’s ill-informed citizens, and *Technology’s Promise* by William E. Halal (Palgrave Macmillan, 2008), which covers TechCast forecasts of the technology revolution.

—William E. Halal and Michael Marien

Note: Longer reviews of many of these books are available online at GlobalForesightBooks.org.

Defining and Anticipating the Global MegaCrisis

How to Define the Global MegaCrisis

At the personal level, it is a MegaCrisis to lose one's home, job, and/or spouse. At the community level, a city or state (like Haiti) reeling from high unemployment and/or a natural disaster is in a MegaCrisis. In a broader sense, a MegaCrisis is more than a "catastrophe," and it can bring about a natural turning point in social evolution. It is thus not only a threat but may also be an opportunity.

The Global MegaCrisis is a constellation of major issues such as climate change, ecological collapse, economic depression, nuclear threats, and/or high-impact wild cards that threaten civilization. Worth noting is that, in the most hopeful scenario, the Global MegaCrisis could initiate the creation of an advanced stage of development based on knowledge, high technology, and global community.

How to Understand the Global MegaCrisis

Trends such as those listed in this article suggest that we are moving toward a MegaCrisis, and there are many other indicators to consider as well. If Iran demonstrates a nuclear bomb, for example, this would heighten the chances of war, which could destabilize the Middle East and deepen a global MegaCrisis. Many would argue that failed or failing states, such as Somalia and Haiti, are already in a condition of MegaCrisis. There will always be contending perspectives when it comes to anticipating crises and gauging their severity. However, avoiding the issue, forestalling painful but necessary changes, or simply thinking, "it can't happen here" will increase the probability of catastrophe.

What Might Happen When the Global MegaCrisis Arrives?

Could it be the beginning of "The End" (complete extinction or major decline in civilization)? Or could such a breakdown ultimately lead to a breakthrough—a shift in global consciousness, for example—as Ervin Laszlo and others have postulated? Such a transition could be rapid or slow. It could be a clear upturn or downturn, or mixed paths, as in our "Muddling Down" and "Muddling Up" scenarios. The uncertainty is huge. What is certain is that sharply differing visions of what is likely to happen will be hotly contested, as illustrated in this article.

—William E. Halal and Michael Marien

to mature and the threats to reach intolerable levels as the global GDP almost doubles. Yes, the situation looks bleak, but it's always darkest just before the dawn. The rise of consciousness can be seen even now in the way the economic crisis has provoked a widespread awareness of the need to transform business and government institutions, stabilize the world's financial system, promote renewable energy, and halt climate change.

It is not possible to know much more about this coming "Age of Global Awareness," just as we never could have guessed that the Information Age would entail us being virtually inseparable from our PCs, laptops, and smart phones for practically every waking hour. I suspect we will use what I call "Technologies of Consciousness" to see us through the crisis of maturity.

Technologies of Consciousness (ToC) are methods that shape awareness, emotions, values, beliefs, ideologies, choices, and states of mind. The ToCs in this survey range from so-called "hard" ToCs, such as artificial intelligence, biofeedback, virtual reality, and even cybernetic brain enhancements, to "soft" or "social" ToCs, such as collaborative enterprise, conflict resolution, and even meditation and prayer.

The key tool in the ToC arsenal is the little-used power of collaborative problem solving. In a knowledge society, collaboration creates new solutions that can benefit all parties, but this is not yet well recognized. Maybe this collaborative article can serve as a small example.

When we (Michael Marien and myself) started working together on this project, I thought many times that we could not go on because our views were so strikingly at odds. We were dealing with a tough issue, of course, but the problem was exacerbated because both of us have thought about futures for many decades, but from different perspectives. One of us is guardedly optimistic, while the other is decidedly pessimistic (albeit hoping to be proven wrong). By examining our differences in the light of compromise, we made important breakthroughs. Collaboration is a power-

ful approach to problem solving—and possibly the single best way to resolve the Global MegaCrisis. Technologies of Consciousness such as those mentioned above could greatly encourage collaboration.

Marien's Analysis: Infoglut, Ignorance, Indecision, and Inadequacy

The two of us agree that both a Global MegaCrisis and an IT/AI explosion are under way, and that there are other technology revolutions ahead, as nicely summarized by the TechCast Project. The question is: Will the IT/AI explosion make things better? It is indeed “a game changer,” and it will change many games—for good and ill. It could bring convergence of thinking about important global issues and move attention to “higher levels of consciousness.” It is also just as likely to cause further information glut, fragmentation, degraded consciousness, indecision, and, ultimately, half-baked inadequate action. Based on the first decade or so of the Internet and vastly expanded information abundance of all sorts, I see no reason for unfettered optimism, which is simply wishful thinking in the end.

In my essay “Futures Thinking and Macro-Systems: Our Era of Mal-Adaptive, Non-Adaptive, and Semi-Adaptive Systems” (*World Future Review*, April-May 2009), I argue that our increasingly complex social systems are adapting in the wrong direction, not adapting at all, or only partly adapting, which could well result in the paradox of “improvement and growing inadequacy.” As a consequence, I rate the four scenarios as follows: Decline to Disaster, 20%; Muddling Down, 60%; Muddling Up, 20%; and Rise to Maturity, 0%.

Certainly there is more consciousness about global issues nowadays, and some actions are being taken to improve global governance. There is growing awareness of climate change. The “greening” of communities, businesses, and governments is under way in many places, and there is a veritable gold rush to develop a wide variety of clean energy technologies (for example, ExxonMobil's re-

“We may still see some shift to enlightened views, but, more likely than not, too little too late.” (Marien)

cent claimed investment of \$600 million to produce liquid fuels from algae). And yet the latest assessments of climate experts are increasingly dire—thus, “improvement and growing inadequacy” seems likely.

The biggest blind spot in the IT/AI vision has to do with governance. In the “Rise to Maturity” scenario, governments and corporations do the right thing—and are supported by the public. This happens even in the more likely “Muddling Up” scenario. It may be desirable, but it is not likely in our chaotic new information environment of tweets, twitters, trivia, sound bites, floods of e-mails, superficiality, commercialism, and ever more fragmentation. Huge deficits, run up by many governments, are leading to draconian cuts in essential services and inattention to decaying or inadequate infrastructure, while fueling overreactionary fears that we are headed toward fiscal ruin, “evil” socialism, and/or unwelcome centralized global government.

Also, despite the hyperabundance of information, there is no evidence that people are better informed about current affairs today than they were in the past. Newspapers and magazines are closing down or shrinking their coverage of national and global issues. In the United States, financially stressed schools and colleges are still deficient in civic education, let alone serious futures education, and socioeconomic inequalities continue to grow. We may still see some shift to enlightened views, but, more likely than not, too little too late. And it may well be offset or rolled back by simplistic reactionary movements.

Granted, Facebook and Twitter have sparked a spectacular and welcome string of regime changes in the Middle East. However, once the post-dictator euphoria passes, the harsh realities of rising prices and a bulging youth population in need of employment may lead to further discontent.

This is not “doom and gloom,” but mainstream social-science thinking, based on my synthesis of hundreds of

recent books on environmental issues, governance, IT impacts, and education. Perhaps we can return to an undisputed path of evolutionary progress, but it will require a major restructuring of industrial-era knowledge and education/learning, especially adult/voter learning, and serious consideration of ethics and the quality of public discourse. What Halal refers to as “Technologies of Consciousness” are not a solution in and of themselves.

Your Turn

You have now encountered four scenarios and two differing arguments about which direction the world is heading in. Now it's your turn to think and respond—and to encourage others to do the same. We invite readers to take the MegaCrisis Survey at www.TechCast.org. □



Halal

Marien

About the Authors

William E. Halal is professor emeritus at George Washington University and president of TechCast LLC (www.TechCast.org). Portions of this article are adapted from his forthcoming book, *Through the MegaCrisis: The Technology Revolution to a World of Knowledge, Intelligence, and Global Consciousness*.

Michael Marien is the founder and former editor of *Future Survey*, published by WFS for 30 years, and is now the director of GlobalForesightBooks.org.

Despite their differences, Halal and Marien share the common bond of having studied for advanced degrees at the University of California, Berkeley.

The authors gratefully acknowledge contributions to this analysis by Jerome C. Glenn, director of the Millennium Project, and Mike MacCracken, chief scientist at the Climate Institute. Readers are invited to take the MegaCrisis Survey at www.TechCast.org. E-mail comments to halal@gwu.edu and mmarien@twcny.rr.com.