Crafting a Resilient World

A STRATEGY FOR NAVIGATING TURBULENCE

By Peter Engelke
Adrienne Arsht is a renowned businesswoman and philanthropist who has taken a leading role in promoting artistic, business, and civic growth in the three cities she calls home: Washington, DC, New York, and Miami. After a career as a successful lawyer and entrepreneur, Arsht moved to Miami in 1996 to run her family-owned bank, TotalBank. Under her leadership as Chairman of the Board, TotalBank grew from four locations to fourteen with over $1.4 billion in assets. In 2007, she sold the bank to Banco Popular Español and was named Chairman Emerita.

Arsht’s passion for Latin America and the issues confronting the region led her to found the Adrienne Arsht Latin America Center in 2013 at the Atlantic Council. She currently serves as Executive Vice Chair of the Atlantic Council, and in 2016, founded her second Center there—the Adrienne Arsht Center for Resilience.

When asked why now is the time for a center focused on resilience, Arsht said “we are at a critical moment of increasing global disruption. We must promote the abilities of communities and individuals to thrive in today’s unpredictable world. By using creative and artistic methods to showcase lessons learned from past crises, the Adrienne Arsht Center for Resilience will help societies bounce back better, faster, and stronger.”
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Adrienne Arsht Center for Resilience Task Force Members

To inform the work and vision of the Center, we have assembled a task force of esteemed leaders from industry, government, and civil society organizations. Task Force members provide input, guide the work of the Center, and serve as ambassadors of our mission. The Task Force for the Adrienne Arsht Center for Resilience includes:

**Adm. Thad Allen**, Commandant, United States Coast Guard (Ret.); Executive Vice President, Booz Allen Hamilton

**Mr. Donald A. Baer**, Worldwide Chair and Chief Executive Officer, Burson-Marsteller

**Mr. Francis Bouchard**, former Group Head of Government and Industry Affairs, Zurich Insurance Company; Managing Director, Hamilton Place Strategies

**Dr. Esther Brimmer**, former Assistant Secretary for International Organization Affairs, US Department of State; Executive Director and CEO, NAFSA: Association of International Educators

**Dr. Anita Chandra**, Director, RAND Justice, Infrastructure, and Environment, RAND Corporation

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**Ms. Nancy Lindborg**, President, United States Institute of Peace

**Gen. David H. Petraeus**, former Director, Central Intelligence Agency; Chairman, KKR Global Institute

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**Judge William H. Webster**, former Director of Central Intelligence, Central Intelligence Agency; former Director, Federal Bureau of Investigation; Chair, Homeland Security Advisory Council
In these turbulent times, it is vital to address the interconnected, constantly changing threats and disruptions of our era.

Foreword

For nearly six decades, the Atlantic Council has convened, amplified, and advocated around the most pressing issues facing our world. There have been many challenges—from the brinksmanship of the Cold War, the fall of the Berlin Wall, and the horror of 9/11, to the myriad disruptions facing us today. All the while, this institution has identified the trends that will shape our world and provided wise counsel in the face of radical global shifts.

It is for this very reason the Atlantic Council has launched the Adrienne Arsht Center for Resilience.

Crafting a Resilient World: A Strategy for Navigating Turbulence serves as the foundational document of the Center. Resilience builds value and capacity in a community or system before a crisis or disruption occurs. In these turbulent times, it is vital to address the interconnected, constantly changing threats and disruptions of our era. The Adrienne Arsht Center for Resilience will do that by convening multiple stakeholders—from business, government, academia, civil society, journalism, and international organizations—to play a role in strengthening society’s capacity to respond, recover, and grow from disruptions.

This report warns that there is a gap “between resilience as a theory and as a practice.” It examines the challenges facing today’s international order and suggests how resilience can help manage these gaps. This paper—like the new Adrienne Arsht Center for Resilience—seeks to bridge the divide “between resilience as an intriguing idea and its application in practice.” An ambitious goal, undoubtedly, but one fully in keeping with the Atlantic Council’s mission to forge a common community of business and civil society leaders, cutting-edge experts, and policy makers to transform innovative ideas into lasting action.

Resilience should become a tool to unite diverse communities and individuals around a common goal: finding solutions that enable us to face disruptions head on, and bounce back better, faster, and stronger. We are delighted to launch this new Center.

Frederick Kempe
President and CEO
Atlantic Council

Adrienne Arsht
Chairman Emerita, TotalBank
Executive Vice Chair, Atlantic Council
Founder, Adrienne Arsht Center for Resilience
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Executive Summary

This report makes clear that resilience is needed now more than ever. We face disruption on a grand scale—and not only from technology. Open any newspaper and you will read about the unprecedented movement of people around the world, scientists warning of major environmental shifts, new actors reshaping the world’s governance, and the massive impacts of automation and globalization. The postwar international order—built on liberal principles including the rule of law, free trade, and international peaceful conflict resolution—is now under unprecedented strain.

Resilience is the capacity of a community to meet disruption or shock by minimizing damage and quickly restoring stability, while also using the experience to develop strategies for future challenges and opportunities. The forces pummeling us today may be greater than ever, but so is our capacity to adapt, mitigate, and manage them in the future. Resilience is a roadmap to achieve this: to meet disruption or shock head-on, minimize the damage it causes, restore stability quickly, and come back stronger, learning from the experience.

How exactly to imbue individuals, communities, societies, nations, and the international system with the ability to respond, recover, and grow from disruption? This is the purpose of the Adrienne Arsht Center for Resilience. This report—the founding document for the Center—identifies key components of resilience, and creative and impactful ways of advocating for resilience policy. The Atlantic Council’s newest center is dedicated to ensuring resilience is not just a useful idea, but a practical tool.

So, what does a resilient response look like? It begins with the understanding that communities must promote engagement and interaction long before any incident occurs. Resilience is impossible without building the necessary social trust. These communities understand that the world is interdependent, that they need to work across intellectual and institutional boundaries. Resilient societies recognize that an effective response to disruption requires the dismantling of stove-piped replies—multiple actors, from multiple sectors, and with multifaceted expertise must work together cooperatively to ensure they bounce back better, faster, and stronger. Resilience will lead to the devolution of more power to a variety of actors like cities, which would then be incorporated into global governance discussions. We need to build mechanisms to forecast how the future will unfold, and invest in avoiding “existential” disasters such as pandemics, ecological collapse, and mitigating the downsides of disruptive technology. Multinational challenges like climate change must be tackled at multiple points of entry, with local actors addressing their causes and impact while states debate responsibility and cost. Emerging powers should be given the opportunity to influence the rules of the game, while fully aware of the cost of not abiding by them.

This restructuring is pivotal as globalization, technological change, and ongoing financial risk ensure that disruption—with all its advantages and pitfalls—will continue for the foreseeable future. And those left behind by technological and economic change are making their voices heard. Across the West, disenfranchised voters are turning to leaders espousing populism and nationalism, seeking to stop the forces they deem responsible for upending their way of life. A dynamic, resilient society will include local, national, and international institutions working together to ensure that the benefits of progress are shared, and will empower citizens to succeed. The central tenants of resilience are interdependence, foresight, prudence, trust, and scale. To make these issues tangible and actionable, the Adrienne Arsht Center for Resilience will employ a diverse toolkit of events, publications, and outreach strategies. These include studying past experiences to understand the successful (and unsuccessful) components of resilience; forecasting the future; developing resilience-based strategies to address real problems using tools such as scenario-gaming; and convening resilience networks from multiple sectors and across the globe. The Center will rely on the arts and storytelling to make resilience come alive, and on original research to give clout to policy recommendations. It will work with leaders from government, civil society, and the private sector to understand where the stumbling blocks are in implementing resilience policy, and how to overcome them.

The Adrienne Arsht Center for Resilience will provide the positive frame, the empirical substance, and the inventive messaging to turn resilience from a theory into a workable proposition. The Center’s mission must be to cultivate resilience as an antidote to the turbulent times in which we live.
We are living in a time of great uncertainty, one that offers both great possibility of a better world and great risk of a worse one. We stand at a crossroads between quantum-scale gains and chasm-sized pitfalls, between enormous hope and grinding fear, between sunny optimism and disquieting doubt. Our time may not be entirely unprecedented, for history is replete with tales that mix the good with the bad. On the positive side—life, courage, wisdom, compassion. On the negative—strife, ignorance, cruelty, injustice. Yet, it is fair to claim that we face something new in human history. Our power over both ourselves and the planet we share with all other living things is unprecedented. So, too, is the speed at which our world turns over. More speed and more power have given us greater turbulence, not more predictability. Dynamism and risk, not stability and control, appear to rule the day.

Ever faster and more furious disruption, therefore, has become the hallmark of our time. Disruption can be a positive, the result of technological marvels and innovative ideas that give us new markets, greater riches, and expanded horizons. However, our world also is beset by all too many negative disruptions: financial meltdowns, instant pandemics, terror attacks, monster storms, refugee crises, worker obsolescence, cyber breaches. To Andrew Zolli and Ann Marie Healy, these shocks arrive “at a quickening yet erratic pace, usually from unexpected quarters, stubbornly resistant to prediction.” Disruption, heretofore an almost magical word in our lexicon, is more rightly defined as having both downsides and upsides.

When the international system works as it should, it manages and contains negative disruption while, at the same time, enabling positive disruption. If the international system fails to perform this critical function, the resulting turbulence can threaten to tear civilization—from the global level down to the local—completely asunder. We live in one such time. The international system in which we have lived since 1945 appears brittle rather than strong. Its norms, institutions, and pathways are all under assault.

Resilience is the antidote to turbulence. The basic idea behind resilience is that we can maintain ourselves in the face of shocks, recover from the worst effects, and gain in the process. The fear of chaos, combined with the hope that we can overcome it, has led us to embrace resilience as a means for navigating our world. Resilience captures the imagination precisely because it offers hope during a time of great uncertainty.

This essay examines resilience as a concept, a strategy, and a practical tool. It places resilience at the center of our great task: how to thrive despite living in unsettling times. To that end, the essay first examines resilience as a tool for use in our quickening world, one that is necessary if we are to prosper well into the future. It then places resilience within a world context, with an emphasis on how brittle the international system is becoming. Resilience thinking will help us understand and overcome this system’s limitations, ranging from the assumptions we make about how the world works to the institutions we have built and managed in order to run it, to the paths that we can pursue in order to survive within it. Lastly, this essay makes the case for the Atlantic Council’s newly minted Adrienne Arsht Center for Resilience, a center of excellence that we believe will become a powerful voice in translating resilience thinking into practical and effective action around the world.

This document is based on research conducted by Atlantic Council staff over several months in 2016 and 2017. In addition to canvassing the core literature on resilience, Atlantic Council staff, together with Meeting Street Research, conducted a series of in-depth interviews (IDIs) with resilience experts and practitioners and with global leaders across a variety of fields, including government, the military, academia, business, and the creative arts. Their input proved invaluable in crafting the findings contained in these pages.
Disasters provide a fitting illustration of how interdependent the modern world has become. Humans have always had to live with both natural and man-made disasters, yet the scale and consequences of disasters have changed dramatically during the modern era. One reason is that there are now more humans on Earth, most of whom live in cities, which in turn means that there is a far greater chance that a storm or earthquake will strike a densely populated area. A second is that, by drawing the world closer together, globalization and its technological enablers allow what had been localized events to send cascading ripple effects around the world.

As evidence, in 2014, the OECD estimated that over the previous decade its member states had suffered $1.5 trillion in damages from natural and man-made shocks and disasters, including storms, earthquakes, industrial accidents, and terror attacks. Moreover, the trend was even more significant than the top-line dollar figure, as OECD data showed dramatic increases in economic damage from disasters over a three-decade span stretching from the 1980s to 2010s. The report’s authors blamed “a significant increase in [the] intensity and complexity” of shocks, pointing to greater risk of exposure, larger scale, and increased interdependence as the main culprits. Rapid urbanization caused more people to settle in riskier locations around the world, such as along low-lying coastlines. Globalization knitted these cities together which, when combined with their dependence on global supply chains and modern communications and transportation technologies, allowed shocks to be transmitted swiftly across national boundaries and distant oceans.

First responders at the scene of an earthquake in Ecuador in April 2016.

*Miguel Cardenas/Ecuadorean Red Cross/Flickr

This century’s great challenge will be to find a way to navigate a fast-moving, interdependent, and turbulent world. What if one cannot forecast with high probability when the next crisis will occur, what it will look like, from where it will come, or what its exact effects will be? What if our fate is not entirely in our hands, because we are tied to everything else through complex webs of interconnection? What if, because of those ties, an event on one side of the world is transmitted to the other with astonishing speed? How can one survive and prosper in such a world?

Resilience provides an answer. Resilience is elegant in theory because it helps explain why some people, cities, systems, institutions, and countries are more capable of absorbing shock, recovering quickly, and emerging stronger when compared with others. Resilience is useful in practice because it offers a guide for anticipating and managing risk.

Resilience, in short, helps us both to understand our world and manage it as well. Resilience assists in understanding why diminutive Singapore is a global success story, or how New Yorkers gritted through the aftermath of 9/11, or why responses to natural disasters around the world have been so varied in their effectiveness. Resilience thinking also leads to better practice. It can assist us in anticipating risks and perils that we have yet to face, while putting us in position to take advantage of opportunities when they arise. If we are smart, resilience will be a powerful tool in service of ourselves, our societies, and ultimately, the global governance system.

So, what is resilience? While there are many definitions, we rely upon one that emerged from the IDI process. According to this consensus of experts, resilience is “the capacity of a community or system to meet disruption or shock by minimizing damage and quickly restoring stability, while also using the experience to develop strategies for future challenges and opportunities.”

As this definition suggests, resilience is a character trait more than anything else. The key word in the definition is “capacity”—the idea that we have within us the ability to anticipate and rebound from shocks. One’s capacity to be resilient is not set in stone for all time. Rather, as Judith Rodin has written, “resilience isn’t inborn.”

Resilience is something that people and societies build over time, in anticipation of shocks. Fragility and brittleness are resilience’s opposite. Those terms refer to individuals or societies that are less capable or even incapable of coping with adversity, up to and including recovery from catastrophic events.

Those who write about resilience repeatedly emphasize the point that resilience is a trait that we ought to burnish for our own good. Resilient individuals and societies cannot defeat risk, which they cannot entirely control. Catastrophic hurricanes, massive terror attacks, international conflicts, and swiftly moving pandemics will occur in the future, but their exact timing, shape, and location will remain unknown.

Resilience builds value long before bad things happen. This is Judith Rodin’s point when she uses the term “resilience dividend”: resilience is “about achieving significant transformation that yields benefits even when disruptions are not occurring.”

To this capacity argument, we should add one essential caveat. Building capacity requires a durable and sustained focus on the machinery of resilience. This focus can occur only if leaders possess the desire to invest in their time and attention and that of the institutions and societies that they lead. Absent the will, capacity cannot be built, and resilience cannot fulfill its promise.
Resilient individuals, cities, institutions, and societies share a number of characteristics in common. These characteristics are strengths and are worth discussing in some detail.

**Interdependence**

Modernity is complicated, and becoming more so all the time. Over the past centuries, the modern world has generated complexity, layer upon layer, to the point where the world now consists of a gigantic interdependent and interconnected set of networks. Our time is remarkable not just for the scale of change and the speed with which change occurs, but for how intertwined the different drivers of transformation have become. Global trade, technological disruption, environmental change, and much more are linked together in complex if imperfectly understood ways. Their rolling interaction produces novel challenges of all kinds, ranging from the origin, spread, and control of pandemics to the global consequences of “local” disasters such as tsunamis and flooding.

Consider, by way of illustration, the Paris terrorist attacks of November 2015. Those attacks were inspired by the Islamic State of Iraq and al-Sham (ISIS), a transnational terror organization based in Syria. ISIS resulted from the vacuum created by a civil war, which in turn was partly caused by a weak Syrian government response to internal migration due to a prolonged drought. The individuals who planned the Paris attack, some of whom slipped into Europe disguised as Syrian refugees, used modern technology, such as encrypted messaging tools, to plan their attacks. The attacks cost France around $2 billion in economic output. This one case has everything intertwined within it: international relations, homeland security, ecology, governance, intelligence, humanitarian crisis, technology, economics, ideology. The list is endless, and the interdependence is clear. Resilient institutions and societies recognize the reality of such interdependence and respond effectively to it. They understand that while bureaucratic specialization has upsides, the downside is stove piping, which is a way of saying that certain institutions are unable to deal with complexity owing to their rigid internal structures. In general, the private sector has found resilience useful because its emphasis on interdependence helps break down silos. Removing internal silos enables private firms to more swiftly find solutions to an interdependent and rapidly moving global business environment.

**Foresight**

There are three things that we can assume about the future: it will not look exactly like the past, it will be upon us faster than we think, and it will not be linear. The last observation is the most important. The future unfolds in abrupt, erratic ways as well as through gradual changes. Resilience, therefore, is about anticipation of the future. To be fully prepared for a disruptive future means that one has thought ahead and has invested time and attention to assessing how it might unfold. This task is normally understood as foresight, meaning the analysis of trends and uncertainties that will shape the future. In this vein, Rodin argues that we need to spend more time in what she calls the “foreloop,” by which she means scanning the horizon, becoming aware of our vulnerabilities, and anticipating sources of risk. In so doing, our heightened awareness will make us more prepared when disruption occurs, which Rodin argues is inevitable.

**Prudence**

It is not enough, however, to speak of resilience as just foresight on the one hand and recovery from shocks on the other. One of the critical interim steps is to take prudent measures given the risks. This was Stephen Flynn’s insight in his 2007 book, aptly titled *The Edge of Disaster*. To Flynn, the United States was vulnerable to disaster not just because it refused to assess its long-term exposure to risks such as terrorism—but for its refusal to engage in foresight. Just as important was that the United States had failed to make prudent investments to reduce those vulnerabilities. Flynn’s most powerful criticism centered on two-decades-long failures. First, public policies had increased rather than reduced US vulnerabilities, as when they permitted development on flood- or storm-prone areas. Second, the federal and state governments had failed to invest the resources in infrastructure, the physical systems upon which nearly everything else depends. The failure to maintain infrastructure is sadly a feature rather than an exception in twenty-first-century America. “This is madness,” he decried.

Prudence brings efficiency into question. Efficiency values economy: something is efficient when low input produces high output. Prudence values caution: something is prudent when it hedges against a risk that may never materialize. Something might be efficient but not prudent, and vice-versa. Resilience demands that we weigh our desire for efficiency against our...
fear of risk. Put another way, an efficient society is not necessarily a resilient one.

This trade-off makes all of us more vulnerable. We rarely make the costly public investments necessary to shore up the long-term bases of our economy and society. Politicians have very little incentive to take long-term prudent action to ward off disaster. Instead, they are rewarded for the efficient solution, which in practice means expending public money only when the return is immediate.

**Trust**

For any society to become genuinely resilient to external shocks, its component parts—its people, its cities, its regions, its institutions—must be at the core of its life. Resilience without community is meaningless. Engaging community is itself a form of resilience, because doing so forges ties that strengthen society’s ability to withstand shocks. Resilience refers more to how people relate to one another than it does to the functioning of abstract systems.

Social capital is at the heart of this logic.* Social capital rests upon the trust that exists among citizens, and between citizens and governments. Trust is the basis upon which much else happens. Trust builds solidarity and bonds individuals to one another and to their communities. The social capital that follows in its wake enables communities and their governments to plan for shocks and, crucially, better respond to shocks and disasters once they occur. Once disruption strikes, higher social capital leads to cooperation, hence collective action.

Governments that engage community through dialogue and make informed decisions based upon that engagement are more likely to reap the benefits once a crisis occurs. This is one of several reasons why diversity of opinion and of representation in government outreach is so important. If a government has invested in citizens’ sense of trust in one another and with the government, good will and cooperative action follow more easily.

**Scale**

Finally, resilience is about working at multiple scales to solve complex problems. It is not a paradox to say that global problems require local solutions, and vice-versa. Ebola and Zika respect no borders and no sovereignty. As a city or country cannot be sealed off from the rest of the world, finding scalable solutions becomes an imperative.

Paying attention to scale has benefits on the front and back ends. On the front end, identifying where workable solutions exist and how best to transfer them pays off long before disruption occurs. Those scaling mechanisms should exist vertically (city to nation, for example, or nation to supranational institution) and horizontally (from city to city or country to country). On the back end, there is a payoff as well. The ideal response to a pandemic is to have a ready-made network of global, national, and local actors all responding swiftly and in concert to its outbreak. Such coordination only occurs if diverse actors are familiar with one another and have a preexisting understanding of where they fit and what their roles will be once disaster strikes.
Over the past seventy years, the international system has been built upon a set of principles, including the rule of law, the peaceful settlement of territorial disputes, and free and fair trade, all of which were designed to prevent great power conflict while spurring economic growth. While these principles were not always adhered to in practice, by and large they did succeed in transforming the world. It is true that many dark corners remain on the globe today. Nonetheless, it is fair to say that our era has been more prosperous, more peaceful, and more just than any previous era in world history.

Unfortunately, the international system that gave rise to this postwar transformation is unraveling. As outlined in Mat Burrows’ seminal Atlantic Council futures study, Global Risks 2035, the world of 2035 might not enjoy the benefits of a peaceful and liberal world order. Rather, the major powers might become increasingly discontent with one another. Non-state actors, restive and assertive, might increasingly disrupt the interstate system for their own ends. Climate change will threaten livelihoods. Emerging technologies, their contours barely foreseeable to us now in 2017, will throttle societies across the globe, for better and for worse.

In other words, the conditions that have kept an ever-faster and more complex world within tolerable, even beneficial, grounds are shifting under our feet. We are losing a core stabilizing mechanism, namely the global governance rudder that has steered the world since 1945.

Looking ahead, we might very well be in for less certainty with increased risk, for greater acceleration with more turbulence, for more dynamism with less stability.

**Global Governance Architecture**

In 2015, the Atlantic Council released a strategy paper, Dynamic Stability, which laid out in detail how the world is changing and what the United States with its allies and partners should do in response. Among other things, this paper made the case that running the world in the twenty-first century will require reforming the architecture of global governance. That architecture has served us well, but like any aging structure, it now requires an update.

The world’s interstate governance institutions, to borrow a phrase, were built to fight the last war. This is almost a truism. The fundamental interstate institutions that exist in the world today, including the United Nations (UN), International Monetary Fund/World Bank, and NATO, were created shortly after World War II. These institutions reflected the lessons that the world’s leaders took from the previous decades. They also reflected the power structures that existed then, as in the case of the UN Security Council’s five permanent members (United States, Russia/Soviet Union, China, France, United Kingdom).

The trouble is that the world has changed dramatically. A shifting interstate power constellation has made it difficult to maintain the standing of multilateral institutions. One illustration was the formation of the Asian Infrastructure Investment Bank (AIIB) in 2015. Led by China, the AIIB was set up as a multilateral development bank outside of the IMF/World Bank system altogether. Widely interpreted as another sign of China’s growing frustration with western institutions, the bank arose, at least in part, because of steadfast US opposition to voting reform within the IMF/World Bank system, which tilts heavily toward the United States.

Another difference is that the challenges are very different now compared with the 1940s. In 2015, the Atlantic Council’s Frank Kramer and two colleagues, Hans Binnendijk and Dan Hamilton, published a report on NATO reform. NATO was established to square off against a traditional foe, using traditional instruments of warfare, and oriented around a traditional objective, which is territorial defense by a standing army. Yet, the nature of warfare has changed, and NATO is now at risk. NATO has few means of dealing with hybrid warfare, nor with a variety of non-traditional threats such as refugee crises. NATO needs an explicit strategy rooted in resilience, one that would refocus the organization’s attention on non-traditional threats. NATO needs to forge new partnerships with new actors, including cyber security agencies, border control and law enforcement agencies, as well as private sector companies.

While non-state actors—non-governmental organizations (NGOs), firms, terror and criminal groups, cities, religious organizations, and so on—have always been a part of the global landscape, their activities cannot be ignored. Many of these actors also have built a kind of parallel global governance architecture, one dedicated to addressing some of the same problems that nation-states attempt to solve. This architecture lies almost entirely outside of the interstate system.
Cities are among the most powerful examples of non-state actors deserving of a more significant role in world affairs. Cities are a natural home for resilience because cities are not abstractions. Rather, they are real things on real maps, sitting along coastlines, rivers, deltas, at the base of mountain ranges, in valleys, and upon deserts. Cities therefore are sites of disruption. Natural disasters are called “disasters” precisely because they strike where lots of people live, which most often means in cities. Terrorists work their infernal trade in cities, because that is where people, institutions, and symbols (e.g., the World Trade Center) are found. Economic shocks ripple through cities—new industries are built in some, old ones are shuttered in others, booms and busts are felt in just about all of them.

But the world’s cities also have become agents in global affairs, self-aware participants in the workings of the world. As the most important nodes in the global economy, city governments compete with one another for investment, skilled workers, and much more. Cities send large delegations abroad in search of financial and economic partnerships, much like national governments do, often creating durable transnational networks in the process.

This much is to be expected. Increasingly, however, cities also see themselves as political actors in global governance. Transnational, city-centric networks dedicated to solving various global problems are now common. The most famous is the C40 Cities network, which was formed in 2005 and which now consists of more than eighty of the world’s largest cities representing a quarter of the world’s GDP and nearly a tenth of the world’s population. C40 focuses on climate change. Another, younger and slightly less famous case is the Strong Cities Network, which was formed as a “global network of mayors, policymakers and practitioners united in building social cohesion and resilience to counter violent extremism in all its forms.”

These cases illustrate an important pattern. Local leaders—mayors, primarily, often from the world’s biggest cities—become frustrated with the international system’s inability to solve some big problem that affects them. These leaders understand that their cities are important components within the world system, hence they must be involved in global governance if they are to control their own fates.

Yet, states do not integrate cities into their management of world affairs. For years, the Atlantic Council has emphasized the need to bring cities into the interstate system, with some impact (the State Department’s capstone document, the 2015 Quadrennial Diplomacy and Development Review, highlighted the roles that cities should play in global affairs, and reflected the Atlantic Council’s work in making its case). But despite some signs of progress, it is clear that states are reluctant to treat cities as partners, to the detriment of both.

**Globalization and Technological Disruption**

Over the past seven decades, the modern, consumer-oriented economy has expanded to include nearly the entire globe, encompassing both the world’s most populous...
countries (India, China) as well as the smallest. Globalization has helped to lift billions of people out of abject poverty while shifting the economic and geopolitical fortunes of entire world regions. However, globalization is a dynamic force in the world, generating great turbulence across and within economies. On balance, globalization is a net benefit in economic terms. But, it creates losers in addition to winners, and shows little loyalty to community or nationality. Going forward, globalization’s upward trajectory is not a given, as protectionist and populist currents gain traction.

Technology makes the globalization story even more vexing. Technologically-based disruption has been with us since the dawn of the Industrial Revolution, creating entirely new economic sectors while at the same time destroying established ones. While this type of disruption has always roiled society, the difference now is that technological change is taking us into deeply uncharted waters and at breakneck speed to boot. Futures full of nimble robots, genetically enhanced humans, and quantum computers of unbelievable power no longer reside just in the minds of science fiction writers. These things will soon be with us, their impact destined to be profound even if their exact consequences are unknown.

In the coming years, these tensions might become even more acute. Globalization and technological change together will speed up disruption, rather than slow it down. Alec Ross, author of *The Industries of the Future*, argues that globalization is about to enter a “next wave” of technologically driven change that will create profound transformation across the globe.19 Brand-new winners and losers will be created everywhere. As Mat Burrows puts it, “technology spares no one.”20

Overlaid against these sources of turbulence is the risk of another global financial meltdown. The 2008-2009 financial crisis, the worst of its kind since the 1929 New York stock market crash led to the Great Depression, drove home the point that the global financial system does not run on benevolent autopilot. Rather, the system’s fiendish complexity and massive scale, combined with fragmented oversight, means that it needs to be made more resilient if we are to avoid another crash. Those who study the financial system point to more consistent regulation of banks across national boundaries, better data on financial transactions, improved understanding of complex financial instruments, more transparency in the shadow banking system, and—if crisis hits—better coordination of policy responses among central banks.21

**Environmental Thresholds**

Roughly a decade ago, a group of scientists and historians coined a succinct phrase, “the great acceleration,” to neatly bring key features of the modern world together under one conceptual umbrella.22 As the term implies, during the period since 1945 in particular, human activities have become unprecedented in their scale, speed, and novelty. In a global system largely created and then managed by the United States and its allies after World War II, human endeavor of every type has exploded, outstripping everything that came before it.23 Hence the term great acceleration: if it feels like history is speeding up, that is because it is. While the great acceleration has brought enormous and often beneficial change with it, there is one big problem. Ever-faster speed means that we are engaged in a headlong rush into the future without much awareness of the consequences.

Nature is providing a poignant case study. What was once the province of quiet scientific inquiry is now becoming obvious to everyone: we are living on a rapidly changing planet. Humankind’s collective rush to acquire wealth and riches has come at a colossal price, in the form of ecosystem changes at planetary scale. As evidence, scientists point not only to climate change and its effects but to the erosion of other global systems as well: to forests, fisheries, habitat, hydrology, soils, coastlines, and many others.

Scientists warn that we can expect sudden and irreversible shifts in natural systems at some point in the future, perhaps even in the short run.24 A team of scientists, recently publishing in Science magazine, argued that overshooting limits “could inadvertently drive the Earth System to a much less hospitable state.”25 Their dry language obscures a genuinely terrifying scenario, wherein the planet’s various life-support systems go haywire, dragging ourselves and everything else into a new and far less pleasant reality.

![Environmental shifts have lead to extreme weather patterns and major topographical changes across the planet.](image)
Crafting a Resilient World

To borrow a phrase, we may not be interested in history, but history is interested in us. The end of the Cold War briefly allowed us to entertain the illusion that history itself was at its end. We could not have been more wrong. History, it turns out, has other plans.

The world that we now inhabit needs clear-headed solutions to reduce a fearful set of global risks. There is no magic bullet solution, no single lever that leaders can pull to make everything go away. Rather, there is only a hard slog ahead. We will need to undertake a robust and concerted effort to adapt the international system to fit the age in which we find ourselves.

Thinkers who mull over these kinds of global risks offer some prescriptions. Together, they are a means for crafting a more resilient world:

**Manage Novelty**

The world that arose from the rubble of last century’s two world wars has been, on balance and in aggregate, a spectacular success. But that success also has come at a real cost. Even as wealth has risen, so too has inequality. Even as technological breakthroughs have improved lives and made us richer, so too have they led to wrenching dislocation. Even as millions move to take advantage of a global marketplace for labor, so too have many others resisted the newcomers in their midst.

Today’s global challenges often result from novel forces that the postwar system was not built to withstand. Ironically, that system gave these forces a boost. They now have returned, in boomerang fashion. The postwar system needs to be made more resilient to novel forces in order to maintain their upsides while minimizing their downsides.

Several tasks need to be undertaken. One is to come to grips with the next wave of tech-driven globalization. Observers fear that emerging technologies in robotics, advanced manufacturing, artificial intelligence, and other areas will threaten entire categories of work. All over the world, workers are finding that their skill sets are obsolete. While the finger of blame has pointed toward multilateral trade deals, technology and automation may prove far bigger threats to employment in manufacturing, agriculture, services, and many other sectors.

According to Alec Ross, the future’s economic winners will be countries that “don’t just double down on the past but that can adapt and direct their citizens toward industries that are growing” with “a social framework that makes sure those who are losing their jobs are able to stay afloat long enough to pivot to the industries or positions that offer new possibilities.”

In other words, globalization’s negative impacts can be managed. Fighting economic obsolescence requires forward orientation rather than retrenchment. As Ross correctly argues, societies that are proactive and that embrace innovation will do better in the long run.

As such, we need to build more successful innovation “hubs,” places like Silicon Valley and Singapore that build the wealth-creation machine known as the knowledge economy. These cities and regions exist because national and local governments have applied the right mix of investment and policies across a swathe of areas, ranging from research and development funding to intellectual property rights to quality education to smart immigration policies. When combined with local features that make those places attractive to talented people from around the world, tech hubs blossom. Creating more of these places will enable more people in more cities and more countries to participate in the economic good life.
At the same time, we need to realize that the knowledge economy will leave huge numbers of workers on the outside looking in. As an example, the United States has Silicon Valley and other world-class tech hubs, but at the very same time it also has millions of workers who effectively are shut out of participation in the high-tech economy. America’s uneven economic geography means that entire sections of the country, and their residents, are falling behind. If such conditions remain unaddressed, there will be predictable social and political consequences. Workers need to be treated as human capital, worthy of investment for their long-run contribution to society. Providing more people with the skills to compete effectively within the post-industrial economy will enhance macroeconomic performance while contributing to sociopolitical stability.

A second task is to get a handle on global immigration, which has accelerated as globalization itself has gotten faster. Over 230 million people now live somewhere other than their countries of birth, the highest number in human history. Although immigration has obvious benefits—including as a booster for knowledge economies around the world—its downsides are becoming all too evident. Primary among these are nativist resentments, fueled by a toxic combination of economic populism, ethnic anxieties, and fears of terrorism. Those resentments now threaten to upend core components of the postwar success story, including the matching of talent with global demand and the humanitarian imperative to allow those fleeing conflict to find new lives elsewhere. Looking ahead, migration will affect more countries around the world; migration within the global south is now greater than from the south to its north.

National and local governments appropriately control many of the policy levers regarding immigration and labor. But, multilateral organizations work in these spaces as well. UNESCO, the International Labor Organization (ILO), and the World Bank, to name just three, work on the world’s skills gap, conducting research, building databases, providing advice to member states, and funding skills training initiatives at the national or sub-national level. And the UN Foundation has a Global Entrepreneurs Council to advise on finding innovative solutions to global challenges, including employment and migration.

While these efforts are well intended, they are but a drop in the bucket. Bold reforms are needed, scaled to the size of the labor and migration challenges that the world confronts. Existing multilateral organizations should seize upon their roles as enablers of smart policies, through training, education, and material support and should expand upon innovative approaches to solving traditional labor and immigration challenges, as in the UN Foundation example. More fundamentally, perhaps we need to rethink multilateral institutions to acknowledge the complex interdependence between technology and work, mobility and skills, old-fashioned wage labor and new-fangled entrepreneurialism, and a host of other factors. The ILO, for example, is a venerable institution, but maybe its remit is too narrow rather than too broad. A multilateral organization dedicated to advancing global human capital could work on human capital in all its permutations, at the intersection of lifetime education, skills training, entrepreneurialism and innovation, workplace protection, and global labor mobility.
Reinvigorate the Democratic Core

If we are to make the international system more resilient, then the democratic core that constructed the postwar world order must be reinvigorated. Based on liberal principles, the order in which we now live reflects the norms and values of democratic societies, or at least those that existed right after the two world wars. Since 1945, these societies could be counted upon to defend the system that they built, in a spirit of democratic solidarity.

More recent history suggests that this assumption is no longer the case. The United States now appears tired of defending the order that it has led for seven decades, while its European partners are busy fighting their own internal struggles over economics and unification. Democracies in the Asia-Pacific region also are beset by their own challenges, not the least of which is how to navigate an increasingly tense environment between the two superpowers on either side of the Pacific Ocean.

If the existing international system is to be repaired for the better, the world’s democratic core needs to recommit to transforming the global order for the better. A democratic system cannot have a sustained and robust global footprint without the equally robust and sustained support of its citizens. If no consensus exists, there is little hope that a democratic society can send a clear and consistent foreign policy message to the rest of the world through its deeds as well as its voice. During the Cold War, such a consensus existed within both the United States and its allies and partners. Today, it is far less obvious that citizenries within the democratic club of nations, including those within its historic transatlantic core, are as committed as before to a set of global ideals and how best to realize them.

At the least, the world’s leading democracies should be organizing to identify foreign policy priorities that they share, based on an order that reflects their values. Astonishingly, there is very little sustained and institutionalized effort along these lines, and few attempts to formally coordinate foreign policy priorities within the world’s democratic club. It almost goes without saying that this state of affairs borders on the tragic, given the stakes for all of us. One effort to rectify the situation is led by the Atlantic Council. Called the “D-10 Initiative,” it brings foreign policy heads from ten of the world’s democracies together to hash out what the liberal international order means and how they can best sustain it through coordinated policy making.

Revisit the Institutions

Many of the world’s multilateral institutions were built in the first two decades after 1945. They continue to reflect the essential features of the post-World War II order, including an American-led and Western-based global power structure and the norms that these states promoted. The existing system needs a reworking because power has evolved, first from the postwar Western core to the East and South and second from states to non-state actors.

We need to think along several lines. First, the United States and its core allies need to be willing to reform power structures within multilateral institutions. The best example, mentioned above, is to more fully represent China’s economic weight within the voting structures of multilateral institutions such as the International Monetary Fund.
Second, the world’s multilateral institutions need to be made more malleable. Their fragmentation and bureaucratization results in a stove-piping and inertia that is out of step with the speed of the world. Reformers point to the need to build their capacity, deepen their expertise, and have them coordinate more effectively with non-state actors, especially at local and regional levels. And calls for the reform of institutions for greater accountability along ethical and efficiency lines, especially within the UN system, is a constant and recurring theme.34

Third, states and multilateral institutions need to embrace the parallel global governance architecture that lies outside the formal (interstate) system. In resilience terms, doing so will build social capital. To repeat an argument, social capital—trust—is an essential building block of all governance systems. Forging tighter bonds between interstate systems and parallel systems will generate social capital between government and civil society.

To get more governance capacity, part of the answer lies in leveraging what already exists elsewhere. For example, city governments manage the lives of billions of human beings. As such, they possess a wide range of capabilities that complement those of nation-states and multilateral institutions alike. And on a global level, city-based networks such as C40 Cities and the Strong Cities Network are working many of the same governance problems that states also confront.

Cities are natural partners in global governance. They are actors in their own right, and becoming more relevant all of the time. Not to put too fine a point on it, but cities are far too important to ignore. To move global resilience from the imagined to the actually real, the key will lie in its scaling, upward from cities but also downward from nations and supranational institutions.

Invest in the Foreloop

Resilience places uncertainty, disruption, and sudden change at its center. It therefore demands that we acknowledge that thresholds exist and that stepping beyond them can bring unpleasant surprises. Hence the emphasis on the foreloop, wherein we identify thresholds through foresight and take prudent measures to reduce our risk ahead of time.38

Resilient societies take the future seriously, organize around it, and act upon it well before crisis occurs. One of the reasons why Singapore enjoys its global reputation for resilience is because its government has an unusually high respect for strategic foresight. The Centre for Strategic Futures (CSF) is designed to help Singapore “manage a complex and fast-changing environment” through “[navigating] emerging strategic challenges” via foresight. CSF is housed within the Prime Minister’s Strategy Group, which focuses on “whole-of-government strategic planning and prioritization.”36 Other states that have a history of embracing foresight include Finland, South Korea, and the United Kingdom.

For the many other governments that do not invest enough in foresight, there are solutions out there. One highly respected design is by the analyst Leon Fuerth. Titled “anticipatory governance,” his plan represents “a systems-based approach for [coping] with accelerating, complex forms of change.”37 Fuerth links foresight to policy through bureaucratic redesign, network building, and policy feedback loops to “speed up learning from results.”38

Foresight also matters because it can help us avoid catastrophic outcomes. In this vein, we should heed the advice of scientists and other thinkers located at the universities of Cambridge and Oxford.39 Their concern is avoiding “existential” disasters such as severe pandemics, global ecological collapse, and nuclear war. They recommend that we add a scientific assessment of existential and catastrophic risks into policy making within the UN system, other multilateral institutions, and among national governments.40

Climate change provides a compelling example. In 1988, the UN’s member states established the Intergovernmental Panel on Climate Change (IPCC). Over nearly thirty years since, the IPCC has fulfilled its mission of providing scientific advice to the world’s governments. Yet over its life, the IPCC’s recommendations for swift and decisive action on climate largely have been ignored and, in some cases, outright condemned. It might be one thing to build scientific advisory bodies, it is another for their work to lead to real policy changes.

Technology provides a second relevant example. New technologies such as quantum computing, synthetic biology, nanotechnology, and artificial intelligence are already here or nearly upon us. Yet, there is no global effort to understand their possible impacts and manage their downsides when they occur, as they inevitably will. (Jamie Metzl, a non-resident fellow at the Atlantic Council, has written that we need a “species-wide conversation” about human genetic enhancement, before this technology leads us down a too-dark path.)41

This critique applies to existing technologies as well. When the internet was invented decades ago, few if any could envision how insecure cyber-governance regimes could become. Cybercrime and state-sponsored hacking are eroding faith in our data networks. Even worse, the internet risks morphing, in the public’s mind, from the miracle invention of the 1990s and 2000s into a dystopian instrument consisting of fake news and cyber bullying.

Regaining effective governance of the internet will be a massive and difficult task, in no small part because the internet is a highly decentralized system of technical networks having no central governing authority. Which is to say that the internet’s original designers created a system—wittingly or unwittingly—that would have both the strengths and the weaknesses of decentralization. Experts who write about internet governance therefore emphasize making it more resilient: redundant systems; monitoring systems; rapid and effective incident response; cooperation between private firms and governments to anticipate crises; and scenario planning to forecast how cyber futures might unfold.42
Resilience in Practice
The Adrienne Arsht Center for Resilience

The IDI process showed that there is a gap between resilience as a theory and as a practice. Interviewees consistently raised this distinction, between the concept of resilience as a sound idea yet its lack of application at the societal and international levels. In other words, to the experts the demand for resilience is clear, but the practice lags far behind.

Politicians and policy makers intuitively understand resilience and find the idea compelling. However, too often the idea does not come equipped with tools that leaders can use to solve the practical challenges that they face. For the concept of resilience to fulfill its promise, it will require organizations that help translate the concept into workable terms.

For this reason, the Atlantic Council is launching the Adrienne Arsht Center for Resilience, which aspires to become one of the world’s premier organizations working in this arena. The Center will fill the gap between resilience as an intriguing idea and its application in practice.

The Center’s mission is as follows:

“The Arsht Center for Resilience advances approaches that promote the abilities of nations, cities, communities, and individuals to respond effectively to disruptions, understand and manage complex, interdependent systems, and thrive in today’s unpredictable global environment.”

The mission prioritizes finding workable solutions to real-world problems. Elected officials, company and NGO heads, policy makers, and practitioners of all kinds do not need convincing that resilience is a worthwhile frame. Rather, they need resilience-based solutions to the challenges that they face.

No one can say with complete certainty which challenges will rise to the top of the global list in the future. We can expect upheavals of all kinds in the years to come, ranging from climate change to pandemics to terror attacks and technological disruption. The IDI respondents identified a set of challenges that are deserving of the Arsht Center’s attention, including the international system, climate change, global health and pandemics, terrorism and violent extremism, cyber security, migration and refugees, energy and infrastructure, and global finance. While the Center’s work will not give equal weight to every one of these risks, at the same time it is not built with the goal of becoming a one-issue institution. It aspires to become as known for the development of resilience thinking, strategies, policies, and useful practices as for the depth of its expertise in specific issue areas.
A Modest Plan

Starting in 2017, the Arsht Center will begin its work in Washington, DC. This section briefly sketches a plan to fulfill the Center’s mission of translating the resilience concept into practical action. In keeping with the Center’s mission and vision, the plan will employ interdisciplinary and creative tools. These will include foresight and risk assessment, the identification and sharing of best practices, the education and training of stakeholders, the use of creative and artistic devices, and other means, all of which will be designed to find rich set of fixes to a complex set of needs. To this end, the plan is designed to discourage overly narrow approaches to broad challenges, thereby preventing hyper-specialized solutions, while at the same time having practical application.

Learn from the Past
The study of past experience provides a fertile source of material for understanding resilience. It also acts as a reminder that humans have managed to survive shocks and recover from them.IDI respondents pointed to the many instances of how institutions, individuals, cities, and societies coped with setbacks and other shocks, for instance, the impromptu maritime boatlift that evacuated hundreds of thousands of people from lower Manhattan on the day of the September 11, 2001 attacks. The Arsht Center also will study events such as the 2010 Deepwater Horizon disaster in the Gulf of Mexico as a learning tool for application to current practices.

Assess the Future
The Atlantic Council has devoted considerable intellectual effort to foresight, with the goal of understanding how the world is changing, what the great questions for the future are, and what the United States and its allies and partners should do about it. The Council has built an intellectual edifice upon which it can work on themes that are both fiendishly complex and critically important, and that are operative at the local, national, and global levels simultaneously.

The Arsht Center will build upon this body of work to assess how trends and uncertainties will lead to alternative future scenarios. Envisioning future scenarios of either high resilience or high fragility will prove to be an enormously useful exercise. Scenario development will enable the Center to trace the steps that will lead to the better scenario (high resilience), the worse one (high fragility), or some mixture of both.

Design the Strategy
Resilience offers a high-level concept that can be used to achieve the highest goals and avoid the worst fears. Resilience thinking therefore leads to strategy, by which is meant a grand plan to achieve a great end. Strategies designed around resilience are useful for motivating and inspiring people around an easily graspable whole. Stephen Flynn made just this argument, that if the US government were to craft an “all-hazards,” “national resiliency” strategy to defend against risks such as terrorism, it would be able to mobilize a broad, bipartisan swath of the electorate around a “compelling rationale” for galvanizing action.

In this spirit, the Arsht Center will formulate resilience-based strategies that can be used by its partners to address real problems in the world. A useful tool in the strategy-development toolkit is the “red team” exercise. As honed by the Atlantic Council’s Bilal Saab, red team exercises take participants through day-long simulations of hypothetical scenarios, for example a major terrorist attack. Several teams (often color coded, hence “red team”) are assigned different roles within the scenarios, and are tasked with charting appropriate responses. Their output, collected and discussed over the course of the day, often generates highly useful strategic and tactical insights.

Animate the Network
The Arsht Center will work with agents of resilience—instutions and individuals having the collective responsibility of ensuring safety, order, justice, and democratic governance within societies and among them as well. The Center’s activities therefore will be conducted in close cooperation with a network of stakeholders located in city governments, national and regional governments, multilateral institutions, and civil society organizations across the world.

A novel feature of this work will be an emphasis on creative and artistic methods for animating this network and engaging a larger global audience. Cultivating the so-called “creative class” (artists, fiction writers, screenwriters, and so on) can provide the imagination that is necessary to help fill the gaps between resilience ideas and their execution. The Center’s methods might include: an “Art of Resilience” series (borrowed from an “Art of Future Warfare” template within the Council’s Brent Scowcroft Center on International Security); TED-style talks as public event templates; use of war gaming techniques, as above; partnering with the entertainment industry, including the film and gaming industries, to create alternative vehicles for Arsht Center content.

To this list, it must be noted that Center staff will conduct robust empirical analysis, using traditional techniques drawn from substantive research. That work will be reflected in the Center’s policy papers and reports.
The resilience appeal is above everything else a call to urgent action. Our age will never allow us to know precisely what will come at us, when it will occur, and what its effects will be. While we can and should improve our awareness of our surroundings and attempt to gain greater understanding of how the future might unfold, at the end of the day we should assume that at some point, events will surprise us. Some of those may be pleasant; many will not.

It is not, however, inevitable that we must become victims of chance. This document has built the case that resilience should be treated as a positive strategy for negotiating turbulence during our times. The trouble, however, is in its details, for resilience thus far has proven to be a concept in search of a transmission vehicle. What the concept needs is focused, imaginative, and practical work led by an organization that has the capacity, motive, resources, and credibility to do so.

The Atlantic Council’s Adrienne Arsht Center for Resilience can serve as that vehicle. It aspires to provide the positive frame, the empirical substance, and the inventive messaging that is necessary to turn resilience from an elegant theory into a workable proposition. It intends to become a means for finding common cause among and between different actors and stakeholders. Its work will be scalable up and down, from the global to the local and everything in between.

At its core, resilience is an ethical approach to the world. Resilience insists that we construct durable relationships with one another for purposes of protecting everything that we hold most dear. It is in this spirit that the Arsht Center will treat resilience as: an all-in proposition, a concept that has merit for every individual, every institution, and every country, everywhere on the planet.
About the Author

Peter Engelke is a senior fellow within the Atlantic Council’s Brent Scowcroft Center on International Security. His work involves assessing global trends and designing strategic responses for policy makers around the world. His diverse portfolio includes topics ranging from grand strategy to regional futures to natural resources and urbanization.

Dr. Engelke has held positions at the Stimson Center and the Georgia Tech Research Institute, where he co-authored his first book, *Health and Community Design*. His second book, co-authored with John McNeill (*The Great Acceleration*, 2016), is a history of the world after 1945. Dr. Engelke is a former Bosch Fellow with the Robert Bosch Foundation in Stuttgart, Germany. He holds a PhD in history from Georgetown University and is on the adjunct faculty at Georgetown’s School of Continuing Studies. Dr. Engelke currently resides in Geneva, Switzerland.


3 For a lengthy and complex discussion of fragility, see Nassim Nicholas Taleb, Antifragile: Things that Gain from Disorder (New York: Random House, 2014).

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5 The author thanks Alex Paul for this example and formulation.


7 Stephen Flynn, The Edge of Disaster: Rebuilding a Resilient Nation (New York: Random House, 2007), Kindle Location 100. For an overview of the book’s core arguments and an illustration of the infrastructure hypothesis, see the Introduction and chapters 3, 4, 10.

8 Arguments in the following two paragraphs are from Nikki Bedi et al., “Linking Resilience and Good Governance: A Literature Review,” Anthòs 6, 1, Article 3.10.15760 (2014), 17-41, http://pdxscholar.library.pdx.edu/anthos/vol6/iss1/3/.


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14 For a treatment of this subject, see Tim Campbell, Beyond Smart Cities: How Cities Network, Learn, and Innovate (New York: Earthscan, 2013).


16 Quotation from the Strong Cities Network website: http://strongcitiesnetwork.org/about/frequently-asked-questions/.


20 Mat Burrows, Global Risks 2035: The Search for a New Normal, ii.


26 Leon Trotsky is alleged to have once said “You may not be interested in war, but war is interested in you.” This quotation might be apocryphal.


28 Ross 2016, Kindle Location 660.

30 Ibid., 7.


33 The Atlantic Council’s Ash Jain leads the D-10 effort.


36 Quotations from the Centre for Strategic Futures website: http://www.csf.gov.sg/.


38 Fuert, *Anticipatory Governance, Practical Upgrades*, 1-2, 7-8 (quotation, 8).


43 On the 9/11 maritime rescue, see the stirring documentary aptly titled *Boatlift* (2011), produced by Stephen Flynn and Sean Burke and narrated by Tom Hanks: http://www.americanwaterways.com/media/videos/boatlift-0.

44 The Council’s Brent Scowcroft Center on Foresight, Strategy, and Risks Initiative. This initiative has produced a large body of work on foresight-informed strategies designed to assess the future and craft responses in anticipation of it. See, e.g., Pavel and Engelke with Ward, *Dynamic Stability: US Strategy for a World in Transition*.


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The Atlantic Council is a nonpartisan organization that promotes constructive US leadership and engagement in international affairs based on the central role of the Atlantic community in meeting today’s global challenges.

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