

Foresight and anticipatory governance

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Abstract

Purpose – *The purpose of this paper is to lay a theoretical basis for discussion of the ways by which organized foresight can be employed in the service of pro-poor objectives. This is in line with the fundamental mandate of the Rockefeller Foundation, dating from its establishment.*

Design/methodology/approach – *The objective was to capture concepts that the author has been developing and teaching under the heading of “Forward engagement”. Forward engagement is a particular approach to anticipatory governance, drawing upon complexity theory for assessment of issues requiring government policy; network theory for proposed reforms to legacy systems of governance to enable them to manage complexity under conditions of accelerating change; and cybernetic theory to propose feedback systems to allow ongoing measurement of the performance of policies against expectations. For more detail, visit www.forwardengagement.org.*

Findings – *The paper sketches out some core elements of a system for anticipatory governance.*

Originality/value – *In addition to the primary findings of forward engagement (see web site), this paper argues that foresight and anticipatory concepts can play a vital role, not only for governance in the United States, but for governance in developing countries: perhaps even more so, because such countries have narrower margins for response to significant changes of circumstance.*

Keywords *Governance, Complexity theory, Forward planning*

Paper type *Conceptual paper*

1. Prospectus

In this paper, I offer views on the nature and uses of foresight as an undervalued, but vital part of governance[1]. These views draw very heavily on my experience as a working practitioner in government, and they are of course saturated by my identity as a citizen of the United States and a product of its culture. My ideas may or may not seem relevant to persons whose experiences of the world are much different than mine.

The Pro-Poor Workshop at Bellagio left me with the impression that practitioners of diverse origins actually do share at least one conviction, in the midst of many probable differences. This would be a shared belief that humanity has the wisdom needed for anticipatory governance[2]: that we can shape the future based on foresight combined with practical action. Assuming we have this much in common at the start, we probably also agree that ours is a very bold prospectus.

Many would say that a belief in foresight and anticipatory governance vastly overstates our capacity for understanding and shaping the forces that govern our destinies. But the alternative is to continue to practice governance that is blind to the longer term implications of its decisions, slow to detect the onset of major defects in policy, and inattentive to its best options until they have been allowed to slide by. This reactive approach might be viewed fatalistically as the cost of doing business in the real world – a world of unintended

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consequences that humble our grand plans. Yet it is precisely in that real world where the costs of business as usual are becoming insupportable at a frightening rate of speed.

As we look around at the state of the world economy, who will say that existing systems of governance are a sufficient basis for lasting prosperity? As we take note of the increasing rate of environmental disequilibrium, who will say that proceeding as per normal is a sane course of action? As we observe the accelerating gap between what science and technology can do in the physical world on the one hand, and what the world's systems for self-regulation can do to regulate these forces, who believes that the interests of this and of future generations are well protected? And, as we note the increasingly powerful interactions among these factors, who is confident that decision-making can stay ahead of events?

In particular, events over this past year profoundly challenge the very idea of "anticipatory governance". We are in the midst of events that force us to question the practical limits of foresight. In the presence of such a challenge we need to reboot, reexamine, recalibrate. If our premise is that anticipatory governance is both needed and workable – what is our case, and what do we have on offer to a world riding the edge of chaos?

Note on organization

The second section of this paper provides a brief history of my interests and activities relating to foresight and anticipatory governance; the third section sets an agenda by considering critical unanswered questions; the fourth section discusses foresight as compound skill, resulting from the interaction of a number of "tributary" ways of "seeing"; the fifth section presents Anticipatory Governance as a complex system of systems; the sixth section discusses a number of approaches to the design of Anticipatory Governance including and in addition to Forward Engagement, which is my own; the seventh section discusses the still-deepening economic crisis as a challenge to foresight and to anticipatory governance; and eighth and ninth section present my conclusions and final remarks.

2. The short personal history of an idea

My interest in foresight and in the concept of anticipatory governance did not begin as matters of theory. On the contrary, they started as urgent practical requirements in the course of my work for former US Vice President Al Gore: first as a senior member of his senate staff, and then as his National Security Advisor. It should be kept in mind that at the outset of the Clinton/Gore administration, an entire world order lay in collapse. The abrupt liquidation of the Cold War removed a central organizing force from world affairs. We had the exhilaration of possible new beginnings, tempered by a sense of vertigo. And so, for much of this time, my work consisted of efforts to deal with these circumstances by means that would be innovative, long-range, complex, and future-oriented.

The common denominator among these experiences was foresight: a quality which set Mr Gore apart from his colleagues from an early date, and which ultimately earned him a Nobel Prize for his work on climate change. It was not an accident that long before he and I met, Mr Gore had joined with Newt Gingrich, as younger members of the House of Representatives in the US Congress, to establish the Congressional Clearing House for the Future. And it was therefore not an accident that my experiences working with Mr Gore would lead me to an interest in the application of foresight to governance.

In the eighth year of this association, I began to talk to the vice president about a set of emergent issues which, it seemed to me, were not classically related to the physical defense of the United States – but which clearly represented a threat to its safety, especially in the longer term. Mr. Gore spoke about these matters at the UN Security Council, just after New Year's Day, 2000, presenting them as a new, parallel security agenda. At that point, it comprised: international networked terrorism; international networked crime; the rapid spread of technologies for weapons of mass destruction; the appearance of new pandemic diseases; and the emerging threat of environmental chaos.

Forward engagement is the name I suggested, and which the Vice President accepted, to identify this emergent class of new threats. It was a term derived from the Cold War concept

of Forward deployment, which had been the core operational concept for NATO forces. Forward engagement echoed this concept, pointing out the need for early recognition of major new challenges and for speedier mobilization of responses in order to maximize our chances for success. It proposed to rely on the use of foresight methodologies as a means to help identify new challenges when these were still nascent

Upon the end of the Clinton/Gore administration, I retired from government and accepted an offer to teach at the George Washington University's Elliott School of International Affairs. With carte blanche to create my own agenda, I decided to continue to pursue the concept of Forward Engagement, essentially by developing it into a teachable process.

Sometime later, I decided to reach outside the lecture hall and to establish contact with like-minded scholars and government practitioners. For that purpose, I established The Project on Forward Engagement, with funds provided by the university and by the Rockefeller Brothers Fund. See section VI for further discussion on the Project.

3. Questions for defining an agenda

In my experience, it is necessary first to find the right set of questions. In that spirit, I offer the following set of questions to establish context:

What is the premise of anticipatory governance?

- What do we believe should be the purpose of foresight in governance?
- What do we mean by the term “foresight?” What are the implications of complexity for foresight-based governance? What do we believe is the potential social utility of foresight?
- Is it possible to design whole systems of governance that combine the policy process with foresight? To what extent is it theoretically possible for governance to become anticipatory?
- What kind of operational relationship should exist between foresight and governance? Is the term “anticipatory governance” useful as a way to refer to governance systems that integrate policy and foresight?

Where are we now?

- How realistic are our objectives, in light of experience?
- Is economics a forecasting methodology? Has economic theory collapsed?
- What examples are there, anywhere in the world, of ongoing efforts to achieve anticipatory governance? Can anticipatory governance be applied internationally? By what means?

What is the way forward?

- Does the field of foresight research need to redefine its own horizons, in terms of methods and organization? In particular, what can foresight research offer in terms of concepts for integration of foresight, policy, and policy execution?
- What can organization theory provide to help? Are there practical mechanisms for early identification of error and symptoms of systems failure? Has the long-range agenda collapsed into the present emergency: will global economic collapse, be followed by planetary-scale environmental disorder? And will these two issues collide not only with each other, but with the collapse of security on a world-wide basis?

4. Foresight – a systems analysis

Foresight is the capacity to anticipate alternative futures, based on sensitivity to weak signals, and an ability to visualize their consequences, in the form of multiple possible outcomes. It is a means to visualize, rehearse and then refine in the mind, actions that would

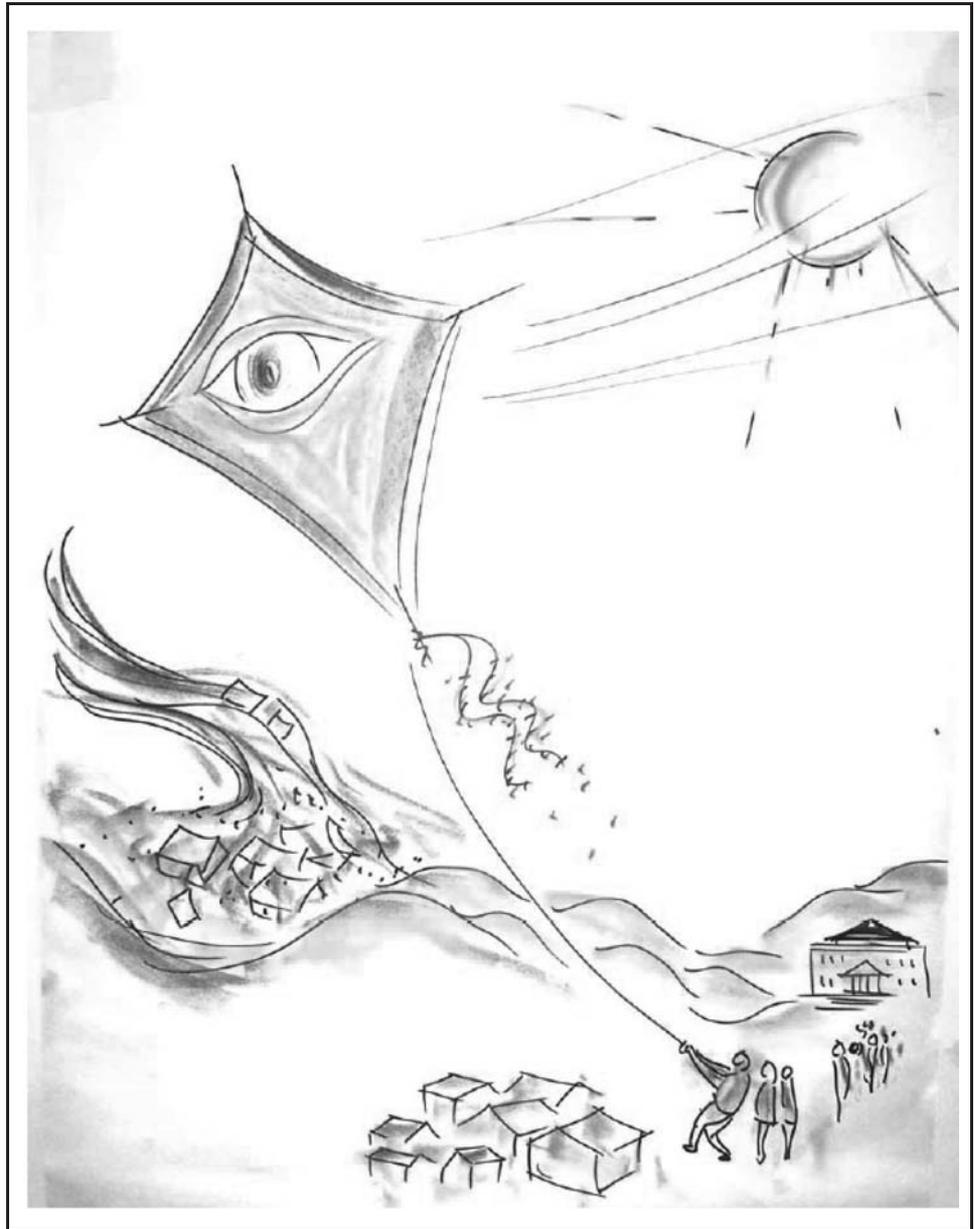
otherwise have to be tested against reality, where the consequences of error are irrevocable. As a factor in governance, the purpose of foresight is to enhance the ability of decision-makers to engage and shape events at a longer range and, therefore, to the best advantage of the citizens they serve.

Properties

The concept of foresight is often used interchangeably with the idea of 'vision,' since it describes an ability to "see" ahead. But foresight and vision are not products of the same mental processes.

Vision tends to be a fixed image of the future, often presented as a kind of secular version of divine prophesy, involving a strong element of faith. Foresight, on the other hand, is based on assumptions that are always understood to be in flux and which are therefore treated as conditional (see Figure 1). Vision tends to be inflexible. Foresight is a continuous effort to

Figure 1 Foresight and vision



reflect upon a range of possibilities as a means of informing choice. It involves a deliberate process of “scanning” for contingencies as a basis for making decisions.

Those who possess Vision have a tendency to be intolerant of alternative conceptions of the future, while those who practice Foresight welcome them as essential resources. Vision launches great ventures, while foresight is concerned with their possible consequences. Vision cannot be taught, while foresight can be cultivated. Vision is fundamentally an individual attribute; while foresight can be either individual, or collaborative. Vision makes predictions. Foresight makes estimates. Vision tends to be teleological and deterministic. Foresight is experimental and empirical.

Components

Foresight. Foresight is a compound or synthetic skill, based on an integration of several, tributary streams of knowledge (see Figure 2). With apologies for some novelties in the use of terms, I identify these tributaries as follows.

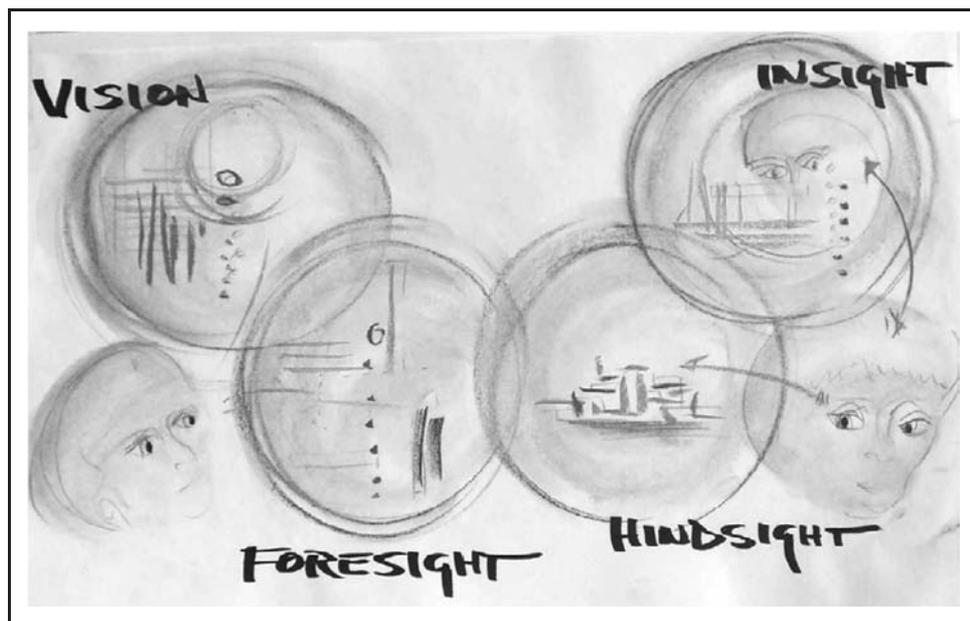
Hindsight. Hindsight is an awareness of forces that originate in the past, carry through the present, and (in modified form) persist into the future. The past is said to be “prologue”, but it is not destiny. Learning from the past and applying its “lessons” to the future may seem like wisdom. All so-called laws of history are at most temporary and local.

Example. Any assessment of future developments among states in the Middle East requires an understanding of the history of these regions since the end of the First World War, when imperially drafted boundaries created permanent human displacement. The same applies to an effort to assess the future of the Balkan states, where as a Greek diplomat – whose government was maneuvering to prevent the emergence of Macedonia as an independent state – once said to me, “In the Balkans, even the stones know history”.

Insight. Insight is knowledge of oneself and one’s own purposes, awareness of social and philosophical biases. These can unconsciously permeate our thinking and destroy efforts to achieve objectivity. The consequences of inattention to this factor have been disastrous for the development of foresight-based policy.

Example. In the case of the United States, whole policies have been conceived in error by projecting American attitudes onto other peoples. The United States’ intervention in Viet Nam

Figure 2 Components of foresight



comes to mind immediately. So, too do gross mistakes that were committed by the United States in preparing to invade Iraq and especially in estimating the course of its post-war development.

Topsight. Topsight is a “supra-system” perspective of a complex system; an awareness of how all the parts work together to create a whole, and how specific events relate to each other to shape the evolution of the system. In any given period of time, seemingly distinct realms of human activity – art, science, technology, economics, politics – are interlinked and interactive (see Figure 3).

Example. The spread of cell-phone technology in China is building towards the point where spontaneous forms of public organization will outrun the central government’s efforts to dominate access to information, and to control political action.

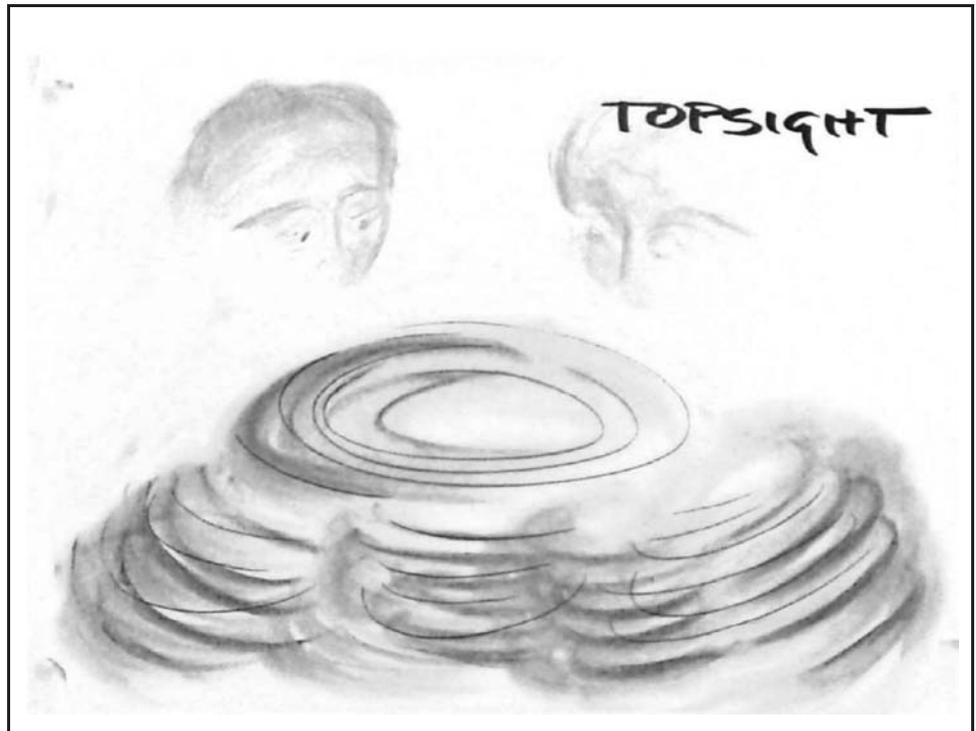
Prescience. Prescience is an intuitive sense of the possible forms of the future, an attunement to weak signals that faintly hint at what may be possible. It is a mysterious quality, originating from unknown sources, much like creativity in the arts or breakthroughs in pure science. It is not possible to engender this quality in persons who do not have it. But it is possible to encourage it. To get to that threshold, it is possible to draw upon machine assistance in the form of increasingly sophisticated computer-driven models. But there is still a gap that can only be filled by acts of prescience.

Example. There is no imaginable group or machine process to replace whatever process of the mind produced the conceptualizations of persons such as Jules Verne, H.G. Wells, Karel Capek, Alvin and Heidi Toffler, etc. We are likely to find the most challenging examples of prescience in literature and art.

Engendering foresight

Foresight can be the inspired product of a solitary individual. However, as is the case with so many other activities in the modern world, foresight is evolving towards highly organized forms, involving a blending of many talents. It is therefore making the transition from personal

Figure 3 Topsight



talent to professional discipline. But it is an uphill process. In the United States, there are numerous private ventures organized as consulting services to provide foresight and long-range “visioning”. But the field of foresight analysis, though vigorous, is not well recognized as a discipline either in the academic world, or by officials in government. In the academic world, foresight studies are handicapped by restricted access to teaching posts, funding, and top-ranked students. In the world of affairs, foresight specialists are not routinely incorporated into policy-making systems, and are at a disadvantage – as compared to the other, conventionally accepted social sciences – in the competition for government funding.

The United States’ intelligence community is a middle case. Its analytic branches are heavily populated by classically trained social scientists, who tend to be very much bound to incremental analysis. There is an exception to this in the form of a foresight process under the direction of the National Intelligence Council (NIC). The NIC has been producing a rolling series of long range forecasts (e.g. The World in 2020). These products are unclassified and freely circulated. They involve the work of sometimes hundreds of scholars over a period of years, in addition to the work of a small inner core of intelligence analysts.

The results of these studies do not, however, appear to have had much impact on the thinking of officials in the executive branch.

5. Anticipatory governance – a systems approach

Our legacy systems for the formation of policy are based on the expectation of linearity. Linearity distorts our notion of cause and effect. Under its influence, we tend to expect that for every problem there is a unique solution; and that proportionate changes of circumstances will produce proportionate changes of outputs. We believe that it is possible to disassemble (“unpack”) compound, conglomerate issues, without destroying their coherence. We divide government into “vertical” hierarchies which neatly align legal mandates, bureaucratic boundaries, and the selection and training of personnel – all in the expectation that in the end, the result will be actions that are fully integrated and part of a properly functioning whole.

Complexity theory offers a much more realistic description of the flow and interplay of events. It brings to the study of human affairs, the sense that everything is indeed related to everything else, however inconvenient that may be for established disciplines, or for organizations based on bureaucratic insularity. It warns us to disregard the claims of ideologists and propagandists that there are unique, permanent solutions to major issues. It trains us instead to view issues, policies and the consequences of policies as parts of an unceasing interaction. It alerts us to the constant potential for abrupt, discontinuous forms of change. It helps us to understand why only the Law of Unintended Consequences stands intact over the ruins of policies based on single concepts and rigid plans (see Figure 4).

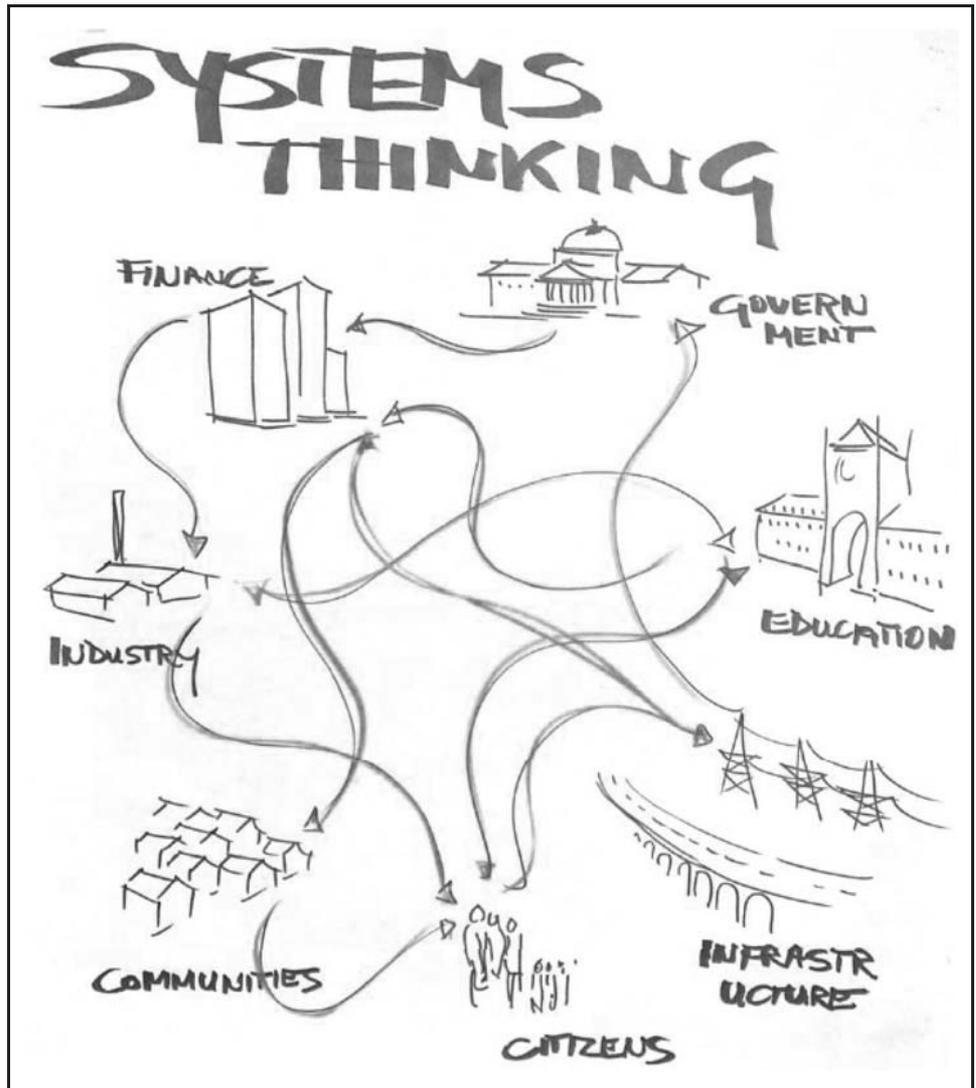
Complexity therefore has profound implications for the design of anticipatory governance.

Anticipatory governance would, in principle, be designed to employ foresight in the creation and execution of plans of action. As the result of this fusion, one would expect to find government that is able to sense and execute changes ahead of the cusp of major events; the better to blunt threats and harvest opportunities.

Anticipatory governance would be a system of systems, involving four basic components:

1. a foresight system;
2. a networked system for integrating foresight and the policy process;
3. a feedback system to gauge performance and also to manage “institutional” knowledge;
and
4. an open-minded institutional culture.

Figure 4 Complex interactions demand a systems approach



The foresight system

Foresight is a composite of various qualities (see above), whether it is expressed through the talent of an individual or the output of a large organization. Regardless of the scale, however, similar organizational and social factors are critical to success. Foresight requires an environment which offers the following conditions:

- readiness to listen to foresight and to consider action;
- ability to maintain a “protected space” within which analysts feel empowered to present their views; and
- rich exchanges between producers and consumers of foresight. The quality of the information you get is a function of the quality of the questions you ask.

The difference between foresight as an organized discipline and as an individual talent is that at the larger scale it will have access to socially organized research (e.g., forecasting, futuring, scenarios, modeling, horizon-scanning systems for detecting weak signals, Delphi surveys, issue matrixes, etc.). The power of these foresight tools are now amplified by the rapidly growing impact of computers and the internet on the speed and scope of human collaboration.

The policy integration system

In the United States government, there are many foresight mechanisms. All of these systems are linked to policy-making, but the means for accomplishing this vary across agencies, and are especially weak at the national level – meaning, in the White House.

This is not to say that the White House lacks mechanisms for generating and applying foresight. They exist, but they operate in separate domains, and come together, only episodically. The White House is dominated by furious improvisation to deal with emergent crises. In this atmosphere considerations of the longer term are often forced aside (“kicking the can down the road”), and expedient decisions taken in the near term often are at the expense of viable options for the future.

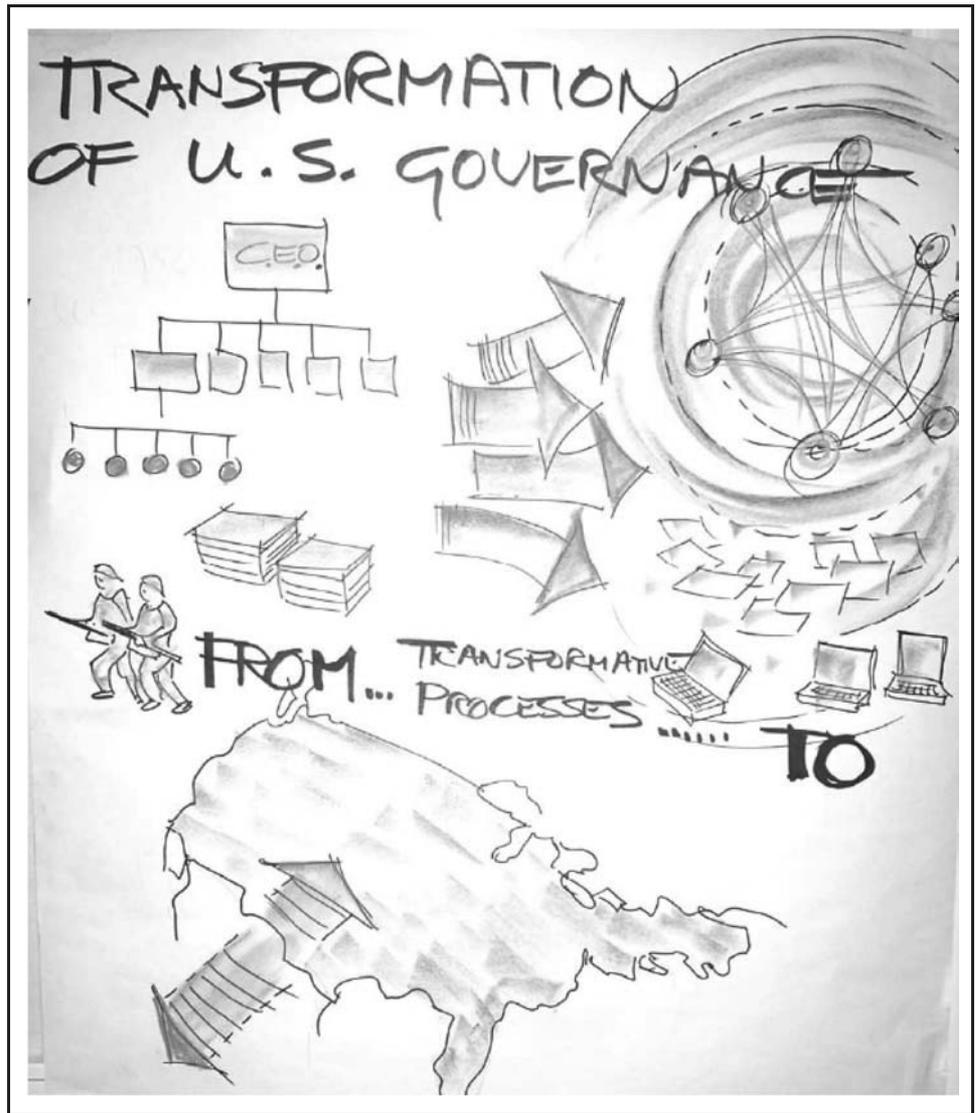
Problems therefore accumulate and the escalating costs for dealing with them inspire a sense of political defeatism, which in turn feeds the problem. Or such it has been until the present (Obama) Administration, which comes to office in the midst of a crisis that is crushing orthodoxies and opening the way for more radical ideas.

The Obama administration has inherited not only a legacy of crises, but an administration system that does not have the requisite complexity to deal with them. A deep, long range change in the structure and “culture” of our governance is needed (see Figure 5). The Administration recognizes this and is taking action in the form of early steps to upgrade the National Security system, by redefining its scope and improving its capacity to act.

In effect, the government of the United States is embarking upon an effort to bring governance into line with 21st century conditions, which are complex and global. This departure is “ragged,” and not guided as yet by any explicit overall strategy. But I believe that there is in fact an emergent pattern, and if I am right, its dominant features may be as follows:

- The reform process will begin in the executive branch, at the White House level.
- At the White House level, there will be an effort to more fully integrate existing systems into an overall system of systems to help formulate and execute coordinated strategy. The existing systems that I have in mind include operations run by the Chief of Staff, the National Security Advisor, the national council of economic advisors, the council of environmental advisors, the office of the Science Adviser, and others.
- The objective will be to create the means to define and execute “whole of government” responses to complex issues that cut across conventional jurisdictions, and which demand a level of integration which the present inter-agency system is inherently unable to provide.
- There will be a shift away from the present system, towards forms of governance that are networked, flexible, task-oriented, and designed to be added to the present system as a kind of supra-organization, allowing more time for transformation to penetrate more deeply.
- The key will be to organize bureaucratic form around function, by creating task forces that are organized according to mission, rather than jurisdiction.
- There will be much greater flexibility for moving resources into place behind evolving mission requirements: a shift that will require new legal and procedural arrangements with Congress.
- The operational definition of “national security” will expand so that this concept is no longer a synonym for “defense,” but a whole- of- governance approach for maintaining America’s wellbeing and resilience as a society. This, in turn, will sustain America’s ability to work with other nations towards forms of global development that promote social equity and environmental sustainability as interlocking requirements for survival.

Figure 5 A paradigm shift for government and governance



The feedback system (feedback loops)

US policy making has until now (we shall see what the new administration does) not used sampling and feedback systems to measure the performance of policies. As a result the United States often does not detect early signs of failure. Typically, awareness of malfunction comes only after it has become patent and costly. To counter this, every policy sent to the President for approval should be part of a package including: information streams to be monitored; preset indicators of performance; and periodic “audits” of performance by teams that will independently report their conclusions to higher levels for consideration.

The cultural system of anticipatory governance

Changes of the sort described above can be initiated by executive directive, and when necessary, by new statutes. But these are changes that will not thrive unless the culture of governance in the longer term. As we have learned from experience with military reforms, formally networked command and control systems are essential, but so, too, is a culture of jointness: the capacity – based on both formal training and constant practice – to plan and operate seamlessly across jurisdictional lines.

I speak here not merely of organizational culture amongst those who would be responsible for this in anticipatory governance, but about “cultural characteristics” of a system as a whole. It would do no good to create an excellent foresight system within a system of governance that is insensitive to its value. What this means, is that anticipatory governance must display the following qualities:

- open-mindedness;
- curiosity and constant questioning of assumptions; and
- willingness to examine alternative possibilities.

These are qualities that can only be developed over time because they involve a culture-shift toward foresight. In the United States, means to encourage this shift could include:

- a revised promotional and incentive structure to emphasize collaboration across disciplines and bureaucratic boundaries.
- reform of the security clearance system
- social networking across agencies

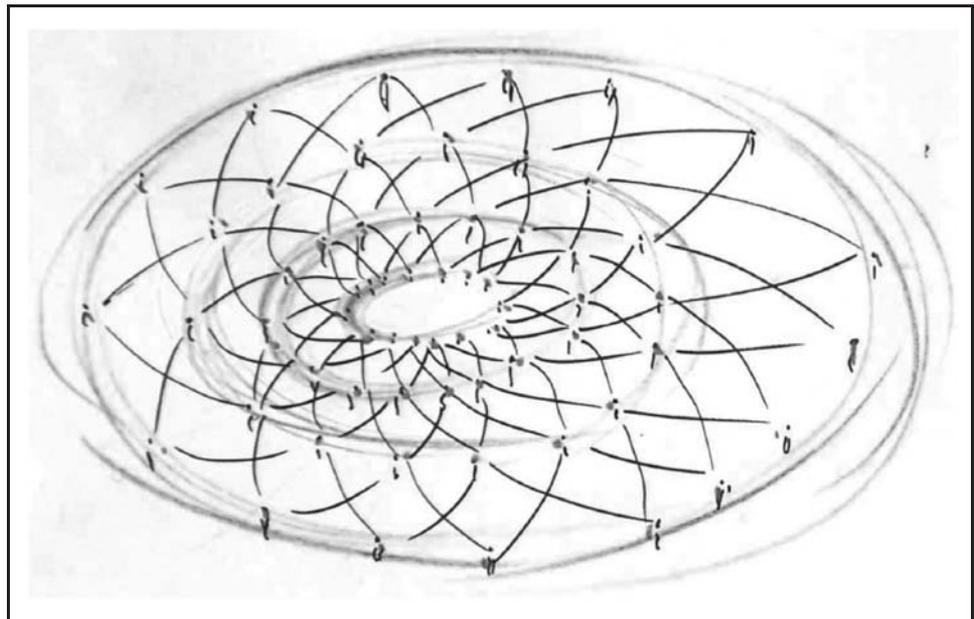
In the United States, the uniformed military has devoted a tremendous amount of effort to instill this mode of thinking as a way of promoting a full integration of its capabilities. No such effort exists on the civilian side of government, and this has become a glaring deficiency.

General system characteristics

As a complex system, anticipatory governance is not the mere sum of its components, but is also its own environment with its own set of characteristics. These characteristics would represent the interplay of sub-systems for foresight, networking, and feedback systems. Anticipatory governance would be a scalable process, with similar relationships displayed at every level of governance, from the bureaucratic base to the political apex (see Figure 6). A fully operational form of anticipatory governance would:

- Cultivate foresight by creating networks of organizations, both public and private, employed to bring together forecasting, futuring, and modeling.

Figure 6 Networked organization and culture



- Employ specialized systems whose purpose would be the identification and subsequent tracking of weak signals.
- Hand off these weak signals for constant evaluation, and use them as drivers in the development of alternative scenarios, including the testing by analysis and by simulation, of alternative policy responses and their first and second-order consequences.
- Use feedback systems for reassessment of policies, and recalibration.
- Develop networked processes for collection and assessment of intelligence, and for policy analysis. Evaluation would be a rolling, continuous process. So too, would checks for signs of systems failure.
- Make a substantial commitment to forming a culture of governance, better adapted to the requirements of action within the framework of complexity.

6. Specific design approaches for anticipatory governance

To my knowledge, there exist only a handful of groups that explore whole-of-governance approaches to foresight and anticipatory governance. Singapore's Risk Assessment and Horizon Scanning (RAHS, 2009) program studies these matters at the theoretical level and applies them operationally in a whole-of-government system. In Finland, the Finnish Parliament's Committee for the Future uses foresight methodologies to evaluate parliamentary initiatives, to assess technological development and societal effects, and for developing models of the future. At the global level, there is the highly influential work of the The Millennium Project (2009), which produces the annual State of the Future report for the past 13 years, Futures Research Methodology Version 3.0, and performs other foresight research and scenario development to support 15 Global Challenges with support of 33 Nodes across the globe.

In the United States, there are a number of extremely creative efforts to develop foresight. Some of these efforts go beyond the question of foresight itself, to address the problem of incorporating foresight as an operational element of anticipatory governance, with direct implications for systemic reform. This is the objective of the Project on Forward Engagement. The work of David Rejeski at the Foresight and Governance Project (2009) at the Woodrow Wilson Center also comes to mind. Another such effort, with some unusual characteristics, is the Project on National Security Reform (PNSR, 2009), to which I will return in a moment.

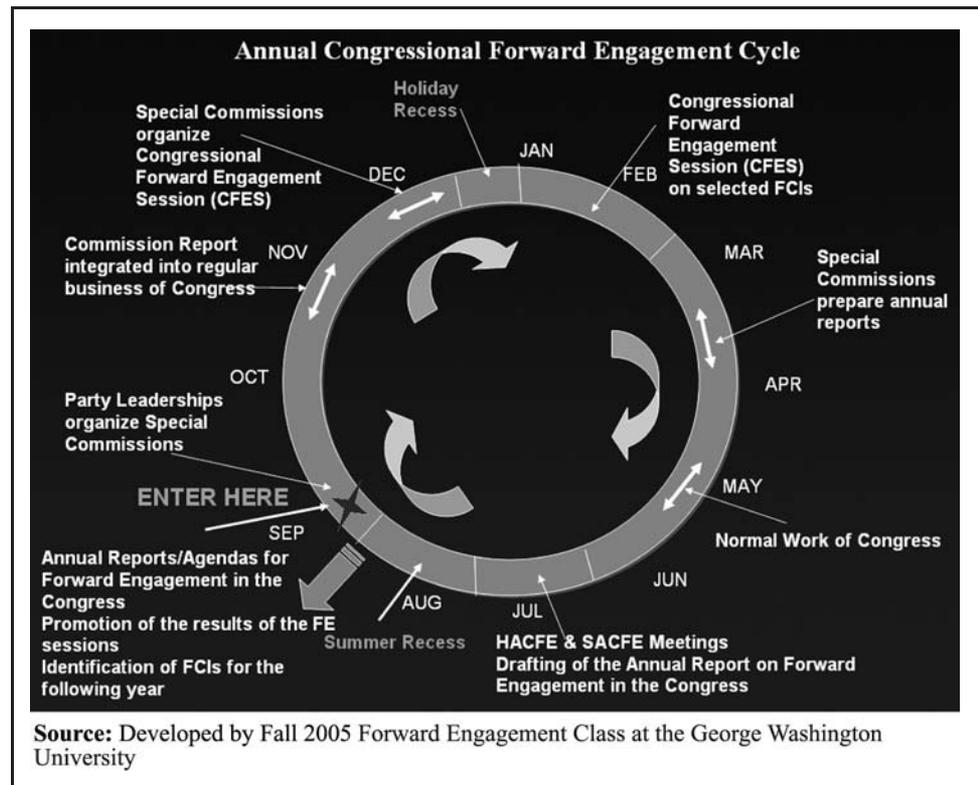
The project on forward engagement

The Project on Forward Engagement is an effort to devise an operational, whole-of-governance approach to foresight in the United States. The Project incorporates three components:

1. a graduate seminar on long-range policy analysis;
2. expert seminars on unpacking Forward Engagement concepts; and
3. public outreach to US citizens through the World Affairs Councils of America, a nation-wide network of community groups, in an effort to create a constituency for apolitical long-range analysis and governance that is less reactive and more anticipatory (see Figure 7).

The objective of the graduate seminar is to accustom students of policymaking to think in a systematic way about potentially major, long-range events. A particular feature of the students' work is to consider adaptations not only of the Executive Branch, but in the US Legislature (Congress) as well. The parameter for these changes is that they must be fully compatible not only with the Constitution, but with deeply engrained legacy systems and patterns of operation. Figure 7 is a product of a class, whose mandate it was to focus on implementing Forward Engagement in the US Congress. The class syllabi, scenarios and student reports are available on the Graduate Seminar page of my website, www.forwardengagement.org

Figure 7 Adapting the Congress to inculcate foresight



The Project on National Security Reform (PNSR)

PNSR is by far the largest, most comprehensive effort of its kind in the USA: one which may well catalyze major change in US governance, with important ramifications for the international system.

PNSR was established as a congressionally funded initiative in 2006. Its mission is to produce recommendations for reconstructing the US executive branch's organization for national security. By law, the PNSR's recommendations are to be accompanied by draft presidential orders and draft enabling legislation. PNSR's report "Forging a new Shield" was issued in December 2008, made available simultaneously to the Congress and to the President of the United States.

The PNSR effort is unique because of the scale of its activities, which have engaged dozens of experts for over a year, and because of the sheer ambitiousness of its mandate. PNSR was conceived as a successor to the Goldwater-Nichols Act of 1986, which fundamentally reorganized the US military. It proposes, however, to go much further than Goldwater-Nichols, with adjustments that take into account the rapidly increasing complexity of modern problems, and which reach far beyond the uniformed military services for resources.

What makes PNSR very noteworthy, however, is the prospect that many of its key conclusions are going to be incorporated into the practices of the Obama administration. One reason that this may be so, in addition to their inherent quality, is that a number of persons who were deeply involved in formulating them have now joined the US government in senior positions, including: National Security Advisor, Director of National Intelligence, Director of Policy at the Department of Defense, and others.

The major PNSR findings are:

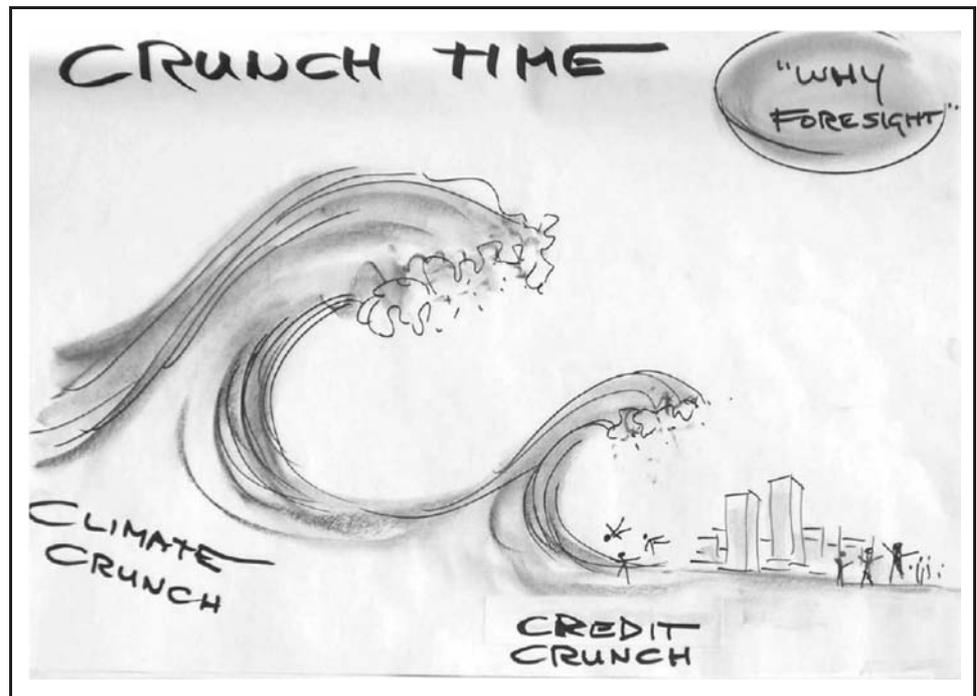
- we are facing complex problems that cannot be dealt with through conventional bureaucratic practices;
- we need a task-oriented, flexible approach to organization for national security;
- the organizational system must be based on networked relationships within and among the concerned executive branch agencies, up to and including the White House itself;
- long-range planning is an essential component;
- new forms of training and career development are needed to create a cadre of policy level officials with the necessary capacities; and
- the scope of national security begins with, but is not limited to the physical defense of the United States – extending to the long-sighted management of its economic and human resources.

When PNSR was conceived, one of its major objectives was to secure deeper integration between the external security of the United States, and its domestic security against terrorist attacks. The focal point of this concern quickly became, and remains, a proposal for integrating the National Security Council and the Department of Homeland Security Council. As PNSR proceeded, however, so-too did the world-wide economic crisis. It became apparent that the security of the United States was deeply engaged by this crisis, and that an approach centered on physical defense alone, had to be broadened.

During the same period of time, opinion in the United States government regarding climate change began to shift. Regardless of the static approach taken by the Bush administration, it became increasingly clear to policy elites in and out of government that climate change would shortly become a serious, negative force acting upon international systems at every level. These views also found their way into PNSR recommendations concerning the elements of security, and methods of organization for dealing with them (see Figure 8).

On February 13, 2009, the contents of the first national security memorandum of the Obama administration were released. It is clear that the administration is moving towards a broader,

Figure 8 The crisis of now might obscure the crisis of tomorrow



more inclusive definition of the elements of national security, and of organizational processes that will be needed to manage them.

7. Major challenge to anticipatory governance: the failure of economics

The repeated economic crises of the past are all of the same sort: the role of speculation as a means to inflate value, abetted by a financial system that cannot control its own impulses; goaded by political cheer-leaders; sanctified by choirs of academic experts; followed by a collapse of an overextended financial system; leading to the collapse of the so-called “real economy”, in terms of physical production and employment; and ultimately paid for by the poorest.

Measures that were put into place in the United States in the aftermath of the Great Depression, were supposed to dampen these impulses and their consequences. The same was true for the Bretton Woods system of international measures put into place after WWII. In the ensuing half-century, the great majority of economists (in the developed world) have argued that these arrangements were able to moderate the risk of systems failure, while encouraging sustainable economic growth. The same principles – in the form of the Washington Consensus – were said to offer comparable benefits to the developing world. This was our orthodoxy.

So the collapse of the financial system as we have known it, really calls into question not just the adequacy of structures for governing them, but the entire body of economic theory that was summoned to build confidence in economic globalization. That theory is not a derivative of physical science as it intends to be, even though it may be expressed in abstruse mathematical language. It stands now as a discredited form of forecasting, because of a vulnerability at its core: it has yet to address the difference between the description of systems of inanimate objects and systems of human beings.

The economic crisis that has been unfolding over the last year is no mere market adjustment. It is a true “Black Swan”: an unanticipated event that demarks the end of one epoch and the beginning of another. The world’s financial system has been effectively nationalized, and no one knows how to reverse the process; the future has been deeply mortgaged to salvage the present, and no one knows how that debt can be redeemed; the balance of world power is rapidly shifting, and no one can be sure what kind of world order will emerge; and the elite leadership of the world has run through its repertoire of clichés and now confesses itself to be in unknown territory. That last one, at least, is a kind of blessing.

Economics purports to be a scientific discipline. If so, however, it asks for a huge dispensation: the right to use the whole of society as an experimental subject for its ideas, on grounds that there is no way to test them at any smaller scale. At this moment, unfortunately, it would appear that the experimental results are in, and they do not good look good for some of the most fundamental propositions that economics has advanced over the last generation.

Here is a partial list of doctrines in disgrace:

- the “real economy” is isolated from the stock market;
- the global economy is isolated from the US economy;
- the USA has, for practical purpose, an infinite capacity for debt;
- the US trade balance is irrelevant;
- the national debt is irrelevant;
- the benefits of globalization are universal and self-generating;
- the decline of major sectors of the US manufacturing sector is “balanced” or “offset” by growth of services, or that there is no net effect on the economy as a result;
- the market is self-correcting;
- deregulation removes useless impediments to wealth;

- cutting taxes reduces the deficit; and
- diversification, hedge funds, etc. reduce risk to the vanishing point.

What has been called into question here is more than the credibility of this or that bogus formula for eliminating risk in the market place. I think that these events are of such magnitude, and so “wild” that they put us on notice – yet again – that there are fundamental limitations to our capacity to manage the kinds of massive, complex processes on which our civilization depends. We have been on that kind of notice since the beginning of the age of nuclear weaponry; we are certainly on notice with respect to global climate change; our burgeoning ability to redesign life itself is bringing us to another inflection point. Moreover, these are converging crises – and the interactions among them have just begun to register.

Therefore, in my view, it is not just the economists who should do some soul-searching: I believe that all of us who make the case for “anticipatory” governance should regard our ideas as deeply challenged. There are fundamental questions that need to be addressed. Exactly what is it that foresight has to offer, beyond the axiom that one should always expect to be surprised?

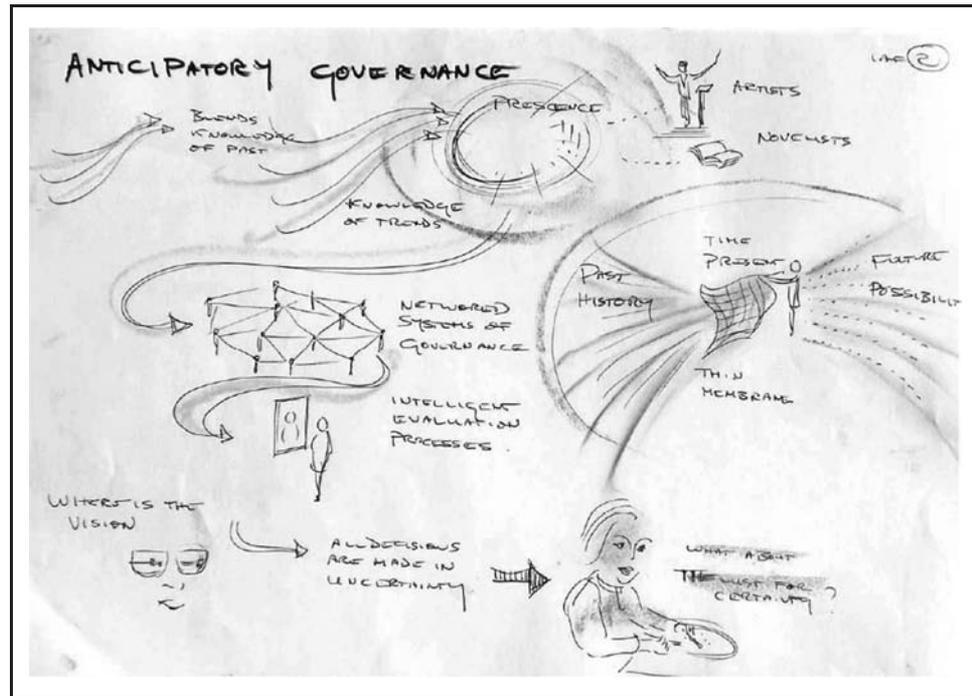
8. Conclusions

- The problems with which governance must now contend are no longer merely complicated, but complex. This means that problems are non-linear by nature, and that their interaction with policies leads to a progression of surprises.
- This (complexity) characteristic challenges fundamental assumptions about process and organization that are deeply engrained in governance as we now practice it.
- Failure to adapt governance to this fact of life exposes us to a series of costly errors, up to and including disastrous mischance.
- The ongoing economic crisis has many tributary elements, but at bottom what has happened reflects the failure of economics as a discipline to make the transition from the linear relationships upon which it is based, to the non-linear world in which reality is moving.
- Foresight is the instrument by which we can imagine alternative futures, and it is the means by which we can test courses of action in the mind, before we deploy them.
- Anticipatory Governance is a system of institutions, rules and norms that provide a way to use foresight for the purpose of reducing risk, and to increase capacity to respond to events at early rather than later stages of their development (see Figure 9).
- The basic elements of anticipatory governance are: a system for generating foresight in the form of alternative constructs about the future; a system for incorporating foresight into policy- making and policy – execution; and a system to provide feedback connections between results and estimates (see Figure 9).
- Anticipatory governance requires adjustments in the processes of the executive and legislative systems. These adjustments can at least begin in the form of relatively modest changes, rather than by means of draconian reorganization.
- In the core functions of government, there will be a need for “cultural” change, which can only be accomplished over time, on the basis of a redefinition of professionalism in government.
- The need for anticipatory governance exists at every scale from communal to global. At the global scale, however, we enter truly unknown territory since the subject matter extends all the way to the evolutionary course, and even the survival of our species.

9. Final comments

Most human misery arises from our own ignorance, rather than from the inherent organization of the natural world. Science and technology are ladders allowing us either to climb higher out of this condition, or to descend further. At the societal level, we express our

Figure 9 Anticipatory governance components and process



choice through governance. But the default condition of governance is for the most part that it is myopic and fragmented.

We have attained the capacity to rapidly advance industrial civilization to new heights or to abruptly end it, with a diminishing margin of error between these two outcomes. Nuclear energy and nuclear war. Globalization of wealth, and global depression. Genetic interventions for the relief of hunger and disease, and genetic interventions running out of control, guided exclusively for profit or for war. Sustainable industrial civilization, or irretrievable environmental disorder. The polarities are very extreme, and thus the need for anticipatory governance is acute.

It is also true that wealth alone provides no more than temporary refuge from forces such as these. Nuclear war might be triggered by causes that have as much to do with desperate poverty as they do with wealth. Preventing catastrophic climate change will require consent and cooperation between both developed and developing societies, in equal measure. The rich will find themselves involuntarily bound to the destinies of the poor, and must therefore approach the concerns of the poorest with new urgency based on intense self-interest, which may in the end be more powerful than altruism.

Anticipatory governance is a mode of decision-making that perpetually scans the horizon for changes demanding adaptation in our plans and behavior. It can be regarded as a scalable system of systems, in which foresight is integrated at every level. The need for anticipatory governance is now common to us all at every scale of activity from local to global.

Following the Bellagio conference, three additional questions were posed that deserve response:

1. *Is foresight in countries of the "Global South" similar or different to foresight applied in the USA to national security issues?* In the United States, the concept of "national security" has long been conflated with the idea of "national defense", which means that the two expressions are used as synonyms for protection against physically violent forms of assault. There is increasing awareness in the United States, however, that "national security" is a much broader concept, extending to all matters that bear on the ability of the

United States to sustain itself in the world. At this level, national security extends to the exercise of stewardship over the fundamental sources of societal strength and national power. All societies have a similar need to protect and/or advance themselves by means of policies that integrate multiple factors, guided by efforts to detect early signals of major oncoming events. In this sense, foresight ought to play the same role in developing countries as it does in the United States: as a mechanism to identify future challenges and navigate complexity.

2. *Is the need for foresight the same across cultural and geographic contexts?* Foresight will clearly focus on different matters, according to the widely varying perspectives and circumstances of different peoples. But across these differences is the unifying need for anticipatory governance: i.e. governance that systematically combines foresight and policy-making, so as to shorten the time required for perception and response to major on-coming challenges. Given that all cultures increasingly must function as parts of an emerging global civilization, there is a need to: respect cultural norms; but to look for ways to harmonize these in order to enable global responses to global phenomena. Toward this end, the component of foresight that I identify as *top-sight* becomes vital; there must be a willingness and capacity to try to look at the future from beyond one's cultural context, from a viewpoint at the top of the system.
3. *What distinguishes "pro-poor foresight" from foresight in the USA context?* The margin of error is often much narrower for the "global south" than it is for the United States: for example, the impact of a succession of bad harvest years would be higher consumer prices in the United States, compared to the prospect of hunger and even famine in other parts of the world. It takes less change, operating over shorter periods of time, to produce stronger impacts on developing societies. Awareness of critical forms of change is valuable only insofar as it comes soon enough to permit response. The responsiveness of government, however, is a matter that is separate from foresight itself – and is captured by the term "anticipatory," as used in this paper.

And so: why foresight?

Foresight is a survival tool by means of which we, as individuals, communities, and as a species can escape the bounds of present circumstances, and achieve a measure of freedom of choice about our destinies.

We live in a universe based on chance, probability, indeterminacy, and complexity. Foresight, as an organized discipline, is knowledge in the form needed for survival in that universe.

Notes

1. The author acknowledges the many helpful insights of his research assistant, Evan Faber.
2. The concept of "anticipatory governance" appears in various applications (e.g., use by Clem Bezold as "Anticipatory Democracy"; and in association with problems of managing nanotechnology). I use it here to connote a whole-of-government process incorporating foresight at every level of governance, visualized and structured as a complex process.

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About the author

Leon S. Fuerth is the former National Security Advisor to Vice President Al Gore. Following 11 years as a Foreign Service Officer, Fuerth joined then-Congressman Gore's staff as senior legislative assistant for national security, focusing on issues of arms control and strategic stability. As the Vice President's National Security Advisor, Fuerth served simultaneously on the Deputies' and Principals' Committees of the National Security Council, alongside the Secretary of State, the Secretary of Defense, and the President's own National Security Advisor. He helped establish and was responsible for managing five bi-national commissions, and led efforts to: develop the International Space Station; to marshal international support for sanctions against Slobodan Milosevic's regime; to raise awareness and take action to prevent the spread of HIV/AIDS in Africa; to denuclearize former Soviet states; to win China's cooperation in protecting the environment and reducing pollution; and to spur foreign investment in Egypt as part of the Middle East peace process. After retiring from government service at the conclusion of the Clinton Administration, Professor Fuerth came to The George Washington University to serve as the J.B. and Maurice C. Shapiro Professor of International Affairs from January 2001 to January 2003. He currently serves as a research professor at the Elliott School of International Affairs and leads the Project on Forward Engagement, which incorporates three components: a graduate seminar on long-range policy analysis; expert seminars on unpacking Forward Engagement concepts; and public outreach to US citizens in an effort to create a constituency for apolitical long-range analysis and anticipatory governance. In addition, Professor Fuerth is also currently: a consultant for SCITOR, exploring use of space-based sensors in the design of a monitorable climate agreement; a member of the National Academy of Science Committee on Climate, Energy and National Security; a member of the Guiding Coalition to the Project on National Security Reform (PNSR); a consultant to The Alliance on Climate Change; and a consultant to former vice president Al Gore. Fuerth holds a bachelor's degree in English and a master's degree in history from New York University, as well as a master's degree in public administration from Harvard University. Leon S. Fuerth can be contacted at: esialsf@gwu.edu

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