The Knowledge Base of Futures Studies 2020

Edited by
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CHAPTER 25: ANTICIPATORY GOVERNANCE: THE ROLE OF FUTURES STUDIES IN REGAINING THE POLITICAL INITIATIVE

by Mathew J. Burrows, Oliver Gnad

Prologue: True lies—history continues, civilizations coexist, and the world isn't flat

If we have learned anything during the last ten years of crisis management, it is about "knowns" and "unknowns," about "true lies" and "inconvenient truths." We also learned that our VUCA world—a world that is increasingly volatile, uncertain, complex, and ambiguous in nature—is not prone to one-dimensional explanations, simplistic answers, or quick fixes.

This is bad news for politicians who depend on their ability to offer attractive and plausible visions—narratives of a better future that have the potential to mobilize political support, social capital, and economic resources.

This article makes the case for strong visionary leadership in a world that seems to be derailing; a world in which old concepts of order erode faster than new recipes for stability can be created and tested; a polycentric environment in which many cooks spoil the broth. It also argues that leadership in the VUCA world should rely on the ability to anticipate seismic shifts within our societies and that Futures Studies and scenario planning enable decision-makers to acquire these abilities.

So, how useful are visionary strategic concepts in a highly unpredictable VUCA world? Take the two most prominent Western narratives of the 1990s and early 2000s: after the end of the Cold War we lulled ourselves into the belief that we had reached some kind of Kantian peace. Francis Fukuyama, deputy head of the US State Department's Planning Staff in 1989, was so overwhelmed by the fall of the Berlin Wall that he enthusiastically proclaimed "the end of history."[1]

During these days, metaphors were created faster than they could be reflected on; Francis Fukuyama's punchline and Samuel P. Huntington's "clash of civilizations" were probably the most prominent. But even more leitmotifs competed for recognition. Even before the Soviet Union was dismantled, George H. Bush hailed the beginning of a "new world order." Later, Bill Clinton wanted to invest the "peace dividend" in education and an improved welfare system, while the neoconservative backlash resulted in "nation building" and "regime change" throughout the Greater Middle East.

In retrospect, all these concepts proved to be misleading, if not dead wrong. The "new world order" was based on the same liberal principles that the US and its Western allies preached during the Cold War. Russia was absent as a strong power at the beginning of the new order while others were still rehearsing their new roles backstage (China, India, Brazil, South Africa). The "peace dividend" never materialized—it either seeped away in new theatres of war (Iraq, Somalia, Afghanistan, the "War on Terror"), or was spent on "nation building" and "regime change" abroad (also with extensive military means). Both the US and EU injected much-needed assistance to reform Cold War-torn societies in Central and Eastern Europe. Newly released military budgets also went into the enlargement of NATO and the EU, while reunified Germany poured billions of euros into the reconstruction of the bankrupt former GDR—and became the "sick man of Europe."

Three decades after the end of the Cold War, our world is a far cry away from what we expected in 1989–91 when the bipolar world order came to an end. We have not experienced the "end of history," nor are we confronted with a full-fledged "clash of civilizations." And if we are at the threshold of a "new world order" it is a completely different one from what we anticipated or wished for. As the journalists George Will and Fareed Zakaria have suggested, after 9 November 1989 history only took a short vacation;[2] it returned forcefully and unexpectedly on 11 September 2001.

What decision-makers can really learn from history
But is the critique of past generations not self-righteous? With hindsight, it is quite easy to prove past assumptions about the world's trajectories right or wrong. In retrospect, we can easily contextualize hitherto unconnected trends. We can even impose logic on developments that we did not understand when they happened. Looking back, human

development can be explained as a zero-sum game: everything falls into its right place and can be attributed to our values and worldviews.

From a socio-psychological point of view, writing history is a social (re-)construction of past events, a sense-making process to impose meaning upon once chaotic, often ambiguous developments. Like criminal investigators, historians engage in postmortem analysis. But even though historians want to uncover "how it really was," we have to accept the fact that historical science can only be an approximation, a plausible interpretation of what happened—not the full picture, and definitely not "the truth." More importantly, Churchill's "History is written by the victors" reminds us that historians often leave us with a tainted picture of the past. So, if we can only agree to disagree about the interpretation of our historical past, how can we ever assume that there will be only a singular version of the future?

Innumerable drivers of change—social, cultural, technological, legal, economic, military, political, normative, ecological etc.—play important roles in the development of societies. They are inseparably intertwined and constantly changing. Continuously interacting, they form so-called "emergent systems," which often turn out to be wicked problems for policymakers. But which drivers of change play out more importantly than others? Which trends are becoming systemic? Which factors trigger disruptive change and paradigm shifts, while others are marginal and can be disregarded?

These are the questions that historians and political analysts have in common. But while historians have become humbler in recent decades in their interpretations of the past, political analyst typically still explain world affairs quite self-confidently—despite their sparse foresight capabilities in recent years.

Executive myopia and the need for Futures Studies
Indeed, political analysts are confronted with a similar task as historians: they are expected to explain how complex situations may unfold. While historians (and criminologists)—using evidence, data, and surviving witnesses—engage in postmortem investigations (What was?) political analysts are preoccupied with pre-mortem analyses (What if?).[3]

Due to the lack of data or first-hand accounts, political analysts have to base their judgment about future developments on the extrapolation of

past data (experience/expertise)—often grounded in normative frameworks and belief systems or schools of thought that are also evolving, depending on events. Basing their judgments on such sandy foundations, they advise decision-makers, who in turn "cherry pick" pieces of experts' advice that fit their mental models and reframe them so that they resonate among their political peer groups. It is all too obvious that this mode of political consultancy has clear limitations in our modern VUCA world. More metaphorically, it could be compared with a speedy, nighttime car race in bad weather conditions with all drivers—their fingers crossed—looking into their rear mirrors, hoping for orientation while praying that they will not hit an obstacle.

The consequence is a widespread feeling of uncertainty. Nik Gowing and Chris Langdon have adequately described this uneasy situation: "A proliferation of 'unthinkable' events … has revealed a new fragility at the highest levels of corporate and public service leaderships. Their ability to spot, identify, and handle unexpected, non-normative events is shown not just to be wanting but also perilously inadequate at critical moments. The overall picture is deeply disturbing." Even more troubling is the inactivity of leaders despite their collective experience of numbness. "Remarkably," Gowing/Langdon continue, "there remains a deep reluctance, or what might be called 'executive myopia,' to see and contemplate even the possibility that 'unthinkables' might happen, let alone how to handle them."[4]

When engaging with state institutions and corporate management in strategy development, analysts have to overcome not only cognitive limitations but also various other stumbling blocks, most of them structural in nature. Decision making structures—particularly in political administration—are, for example, still aligned with the processes and demands of the emerging national economies and military/industrial complexes at the end of the 19th century. The operating principles have remained essentially unchanged to the present day: compartmentalized to a high degree according to jurisdiction, strictly hierarchical and thus vertically structured, mechanical in procedure, and sluggish in generating coherence. Even though bureaucracies are part of highly interactive social systems, their modus operandi is "increasing efficiency," not "managing complexity."[5]

This often leads to structural blindness. A political apparatus that organizes its forward planning chiefly along the lines of departments and

responsibilities is inclined to ignore weak signals of change that do not comply with its organizational logic. Hence, its worldview is often over-simplified, always fragmented, and sometimes deterministic and linear. The late American columnist Will Rogers once summed up this phenomenon with the ironic observation that "everybody is ignorant—only on different subjects." This is particularly true for stove-piped bureaucracies.

Executive myopia—sometimes aggravated by sheer ignorance—exposes us to unfamiliar terrain: the return of geopolitics, the fluctuating global economy, epidemics such as Ebola, cyber security, hybrid warfare, the redesign of regional orders. Flabbergasted by surprising events, we have all stumbled from crisis to crisis: 9/11 (2001) and the financial meltdown (2007–08), the Arab Spring leading to the collapse of Libya and Syria (2010–), the nuclear disaster in Fukushima (2011), the conflict in Ukraine and the annexation of the Crimea by Russia (2014–), the rise of the so-called Islamic State and the proclamation of the Caliphate (2014–2019), the wave of migrants from the Greater Middle East to Europe (2015–16), Brexit (2016–), and Donald Trump's victory in the US Presidential elections (2016)—these are all "wicked problems" that defy linear solutions and need lateral thinking instead of efficiency-driven bureaucratic processes.[6]

Government, whether on autopilot, muddling through, or constant crisis management, will not produce good-enough—let alone sustainable—solutions and robust results. To master the challenge, we have to invest in Futures Studies and enhanced capabilities for "anticipatory governance." Thinking systematically about alternative futures—all of which are plausible—and planning accordingly is a prerequisite to building up resilience in a constantly changing environment. So-called evidence-based decision making—i.e., decisions relying on past experience, existing evidence, and linear projection—has its limits in our VUCA world. The further we try to look into the future the less we can rely on the extrapolation of past data.

"Slow thinking": Futures Studies based on qualitative analysis
Before examining the value of foresight and scenario planning for policy planning processes in more depth, a commonly held misconception needs to be discarded: forward-looking policy planning is not about forecasting or even predicting future developments. Whereas a prediction is a *definitive* statement about a future event (for example: "In 2024, Mr. X

will be Vladimir Putin's successor"), a forecast is a *qualified* statement about a future condition (for example: "If Vladimir Putin does not breach the Russian constitution, there will be a new Russian leader in 2024"). The forecast's qualifiers represent the level of uncertainty in the judgement. Foresight "is … a distinct process of monitoring prospective oncoming events, analyzing potential implications, simulating alternative courses of action, asking unasked questions, and issuing timely warning to avert a risk or seize an opportunity."[7]

Hence, foresight is less about products, more about process. Once decision-makers have accepted the fact that the future is not static—given that it can be partly influenced by their decisions—they can better understand that predicting the future is meaningless. Anticipatory governance draws upon a host of proven foresight methods and scenario planning instruments. These can be used whenever quantitative methods and the extrapolation of existing data and past experiences are not sufficient to allow robust, forward-looking decision making.

Foresight analysts roughly distinguish three types of future scenarios: normative, explorative, and disruptive. While explorative scenarios are open-ended inquiries into the space of the possible (What could happen?), normative scenarios are bound by pre-definitions (What should happen?). Disruptive scenarios, in contrast, take an event or a non-linear development as a starting point to analyse the impact on societies or other systems, asking the question: Are we prepared?

All three scenario techniques have one thing in common: they are based on a thorough analysis of a wide range of key drivers and their interplay—e.g., global or mega trends, intervening factors and actors, and, most importantly, weak signals of change that have the potential to morph into key drivers over time (often defined as "unknown unknowns").

But a thorough analyses of key drivers of change is only one side of the coin. Equally important is their flipside: deeply ingrained belief systems and mental models. Challenging our hardwired key assumptions about how the world functions (heuristics) is even more important (and challenging) than looking at factors of change.

Why is challenging our key assumptions so important? Because if the map is wrong, even the best staff and equipment cannot navigate us through *terra incognita*. In the words of American writer Ursula K. Le

Guin: "There are no right answers to wrong questions." Avoiding intellectual shortcuts, habitual pitfalls, heuristics, and mental shotguns are probably the hardest challenges of all when thinking systematically about the future.

The art of foresight, therefore, is to connect the data points of today with the trends, drivers, and key factors of change of tomorrow—and to separate the wheat from the chaff. Analysts must also accept the fact that the future may not be a linear projection of the past but may well be an abrupt discontinuity which triggers a completely new path forward (disruptive vs. incremental change). To overcome linear thinking, to fight the human brain's default settings, to bypass cognitive biases and humans' unfamiliarity with thinking structurally about the future, foresight must be heavily methodology-driven.

Cognitive biases and "formation professionelle"
Our analytic judgement about the present and our assumptions about the future are firmly anchored in our past experience. Cognitive biases such as groupthink have a huge impact on our perceptions and determine how we interpret data. Our worldview is the product of our upbringing and socio-cultural environment. It reflects our education ("formation professionelle") as much as it does our institutional roles and affiliations.

Unconsciously, we have developed patterns that help us to navigate our daily lives; they ensure that we do not have to analyse each and every situation from scratch before we can make a solid decision. Based on past experiences, our brains simply need to recognize familiar patterns and analogies to be able to make a quick and adequate judgment. Ten thousand years ago, this brain function helped *Homo sapiens* to survive in a hostile environment—and this is why "fast thinking" takes place in the oldest area of the human brain: the limbic system. It functions best in linear contexts in which A logically leads to B.

But the limbic system does not serve us well in non-linear, complex environments—i.e., the VUCA world. Today, there is a good chance that the natural reflex of the limbic brain produces inadequate responses. Analysts need to be aware of these mental traps before they start an analytical process. To really understand what is going on in a complex system, one deliberately needs to understand and analyze it—a cognitive process dubbed "slow thinking" by psychologist Daniel Kahneman.[8]

From insight to foresight: A four-step methodological approach

Step I: Key Assumption Check—challenging common wisdom and truisms
Usually, a foresight process consists of a four-step process: questioning common wisdom (Key Assumption Check), followed by the identification of key drivers of change (structured brainstorming), the generation of multiple plausible narratives of the future (scenario generation), and a scenario transfer, including the establishment of an early warning system to track future developments (indicators).

Before starting a foresight process, people need to get acquainted with the fact that the future might not be a linear projection of the present or the past. This is easier said than done because it requires people to move beyond their comfort zones, question the very foundations of their belief systems, and acquaint themselves with the possibility that their analysis might be outdated.

The first step is devoted to the so-called "Key Assumption Check." A Key Assumption Check is a systematic effort to make explicit and to question the assumptions that guide an analyst's interpretation of evidence and the reasoning underlying any particular judgment or conclusion.

A Key Assumption Check exercise is probably one of the most effective tools in a foresight exercise. It literally swipes away long-held beliefs and thereby levels the playing field among the analysts. Going through a Key Assumption Check, workshop participants immediately understand that "an organization really begins to learn only when its most cherished assumptions are challenged by counter-assumptions."

To kickstart a Key Assumption Check, participants of a scenario exercise would be asked to collect as many commonly accepted assumptions as possible. The group then challenges these assumptions by critically examining them, asking the following questions:

- Why am I confident that this assumption is correct?
- Could the assumption have been true in the past but no longer today or in the future?
- Under which circumstances might this assumption be untrue? Is there any inconsistent data which might falsify the assumption?

- If the assumption turns out to be invalid, how much impact would this have on my analysis?

After a thorough examination, the assumptions are categorized as "solid" (true without caveats), "correct with some caveats," "unsupported," or "questionable." Experience shows that about one third of commonly held assumptions need to be revised or fall apart completely under thorough scrutiny. They then become so-called "key uncertainties" and play a decisive role in the ongoing scenario process.

Step II: Structured brainstorming—everybody is ignorant, only on different subjects
The underlying premise of a group exercise is that the whole is greater than the sum of its parts. But such coherence can only be achieved if good group dynamics are achieved. Behavioral group aspects play an important role for the success of a scenario exercise and are often underestimated. Addressed well and early on, they can become key success factors. As a rule of thumb, three ingredients need to be considered before starting a foresight exercise:

- Group heterogeneity. The more heterogeneous a group of foresight analysts, the better is their "seismic sensitivity," i.e., their ability to detect "weak signals of change," to differentiate these from "noise," and to include new drivers of change into their systemic thinking.[9]
- Role of hierarchy and seniority. Hierarchy and seniority need to be levelled, because the role of organizational leaders often is to defend the status quo and retain mainstream thinking—not to challenge it. In foresight processes, therefore, the primary role of hierarchy and seniority is to give space and legitimacy to what is essentially a challenge to current strategic thinking.
- Early involvement of decision-makers. Thinking strategically is per definition the domain of politics. Early involvement of decision-makers eases their buy-in to the process and its outcomes—especially if it involves external experts unknown to them.

To overcome the negative aspects of group dynamics, yet at the same time to tap into the wide and fragmented knowledge of a heterogeneous

group of experts, a specific technique of brainstorming has been proved useful—structured brainstorming.

Brainstorming is a well-established method to stimulate creative thinking, but it has its limitations in hierarchical contexts. To tease out non-aligned opinions, flag raw ideas, boost the value of unfamiliar concepts, and integrate fresh thinking of younger members of the group, brainstorming sessions need to be freed from hierarchy and social frictions. Brainstorming sessions, therefore, should follow a few simple guidelines. Counter-intuitively—but most importantly—they need to be conducted in silence, at least during the initial stage. If conducted openly, all formal and informal, conscious and unconscious patterns of social groups are at play again—obstructing the basic aim of a brainstorming exercise: to come to new, sometimes surprising findings.

To familiarize workshop participants with systemic thinking, it is helpful to introduce an analytical framework. Whereas the STEEP, PEST, or PESTLE analytical frameworks are commonly known, the STEMPLE-Plus framework covers a wider analytical horizon. STEMPLE-Plus includes the following factors of societal change (with a few illustrative examples for each factor):

- **Social**. Demography, migration, social cohesion, wellbeing
- **Technological**. Digitization, automation, internet of things, industry 4.0
- **Economic**. Macroeconomic performance, investments, recessions/booms
- **Military/Security**. War, tensions, terrorism, security architecture, securitization of sectoral policies
- **Political**. Regime change, political culture and climate, polycentrism, international order
- **Legal/Normative**. Legislation and constitutional issues; norms, standards, and regulations
- **Environmental**. Natural resources, climate change, biodiversity, desertification, sustainability
- **Plus other (soft) factors**. Psychological (anti-globalization, xenophobia, populism, nationalism); cultural (values, religion, habits)

With this analytical framework as backdrop, participants of a foresight and scenario exercise are asked to silently write down on sticky notes as many ideas as they can to answer the research question (for instance: "Within the next five years: What are all the forces, factors, trends, and events that will influence the succession of Vladimir Putin?").

After about ten minutes, workshop participants usually find it more difficult to keep generating new ideas because they have produced all obvious answers (available knowledge). Workshop facilitators then collect the sticky notes and read them out aloud before putting them up randomly on a whiteboard. Participants are now asked to associate freely with what they hear and write new ideas on more sticky notes. The goal is to motivate workshop participants to come up with ideas they would otherwise not express in an open discussion: gut feeling, hearsay, notions—i.e., the weak signals they might have come across in their various professional contexts but could not yet explain.

Usually, a group of about fifteen participants produce between 200 and 250 sticky notes. Once the production stage comes to an end, up to five group members are asked to step up to the whiteboard. Their task is to arrange the sticky notes according to affinity groups (not categories); again, they are not allowed to talk to each other. If they disagree over the right position of a sticky note, they are allowed to duplicate it and to put them into different affinity groups. Outliers should be kept separately and should not be forced into an affinity group; they might be the seed of an upcoming new trend or a wildcard. The end product is a system of about ten to fifteen overlapping affinity groups assembled in a huge word cloud. Once the cloud of affinity groups is completed, a second group is asked to refine the product (in silence) and (after a short discussion) to assign labels to each affinity group. These labels then become the drivers in the subsequent Multiple Scenario Generation exercise.

In an ensuing group discussion (ideally supported by a System Dynamics analysis), workshop participants cluster these drivers into high-impact and low-impact drivers. Those with a high systemic impact are called "key drivers" and are used for the scenario building process.[10] Another selection criterion for key drivers is a high degree of uncertainty on how these drivers might change over the examination period. There should be also be an emphasis on including as many STEMPLE-Plus factors to cover as many different aspects of societal change as possible.

Step III: Plausible alternative futures—developing narratives of change
To develop narratives of plausible futures, two different methodologies are widely applied within the foresight community: the so-called Multiple Scenario Generation method (MSG)[11] and the Morphological Box technique. MSG is a repetitive process of combining two critical drivers to develop four distinct scenarios per iteration. A Morphological Box allows the deconstruction of complex systems within a single matrix.[12]

Both methodologies are fed by the key drivers generated during the Structured Brainstorming exercise. Reducing the number of key drivers is key—not only to keep the process manageable but more importantly to force workshop participants to focus on highly active systemic drivers, i.e., those with the capacity to influence complex systems (instead of being influenced by others). Key drivers must be mutually exclusive and properly defined.

Multiple Scenario Generation. With five key drivers (A–E), ten different combinations of two-by-two matrices can be arranged. To define the range of plausible developments, key drivers are defined along a bipolar spectrum. An example: If "Mass Migration" is identified as a key driver for a society's development, this phenomenon needs to be defined in qualitative terms to harmonize a group's understanding of the underlying concept and bound the range of uncertainty that analysts must deal with in their scenarios. It is, therefore, important to come up with the most telling description for each key driver. In this example, extreme trajectories of mass migration could be described as "high/low" (static description), "decreasing/increasing" (dynamic description), "controlled/chaotic" (qualitative description), "legal/illegal" (legalistic description), "human/inhuman" (normative description), etc. Finding the right edge to a key driver's impact on larger systems, it is of high importance to accurately define its spectrum of plausible future trajectories.
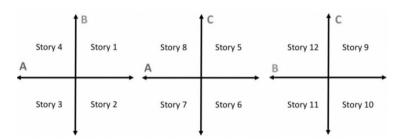

Fig. 1: Multiple Scenario Generation

If—as in this example—all five key drivers qualify with a bipolar spectrum of plausible outcomes, the combination of key drivers A to E will lead to forty different scenarios. Only those combinations will be used to generate full-fledged scenarios which are logically consistent and promising enough to generate new insight.

Each of the scenarios receives a "sticky" title (popular are movie or song titles) to enable readers to immediately grasp the gist of the scenarios, a few bullet-points to describe the main features and characteristics of each scenario and, most importantly, an answer to the "So What" question—i.e., what are the consequences of each scenario for policies and policy-makers (i.e., risk, opportunity, preparedness)?

Morphological Box (or Zwicky box). If topics are highly complex and more than five key drivers need to be considered, the Morphological Box methodology allows for a more comprehensive scenario building process than the MSG methodology.

General Morphological Analysis (GMA) is the study of forms or patterns and how they create a whole by connecting different parts of an object. Depending on how they conform, they represent a whole ("Gestalt"). Objects in question could be physical (organism or ecology), social or organizational (institution or company), or mental (ideology or vision). GMA was developed by astrophysicist Fritz Zwicky as a method for structuring and investigating the total set of relationships contained in multi-dimensional, non-quantifiable, complex systems.

GMA allows for a more systemic approach to scenario building than MSG because analysts deal with all drivers and their plausible future deviations (morphs) at once—not in a fragmented way, as demanded by the MSG methodology.

Parameter A	Parameter B	Parameter C	Parameter D	Parameter E	Parameter F
Condition A1	Condition B1	Condition C1	Condition D1	Condition E1	Condition F1
Condition A2	Condition B2	Condition C2	Condition D2	Condition E2	Condition F2
Condition A3	Condition B3	Condition C3		Condition E3	Condition F3
Condition A4	Condition B4	Condition C4		Condition E4	Condition F4
Condition A5		Condition C5		Condition E5	
				Condition E6	

Fig 2: Morphological Box

After analysts identify the most important parameters determining a system or a problem (key drivers), they have to define and list the range of plausible future conditions for each parameter—i.e., mutually exclusive characteristics and variations that define a system and determine its behavior.

Scenarios are constructed by combining logically consistent parameters with each other, with each configuration marking a possible formal solution to the problem (alternative future). Because of the sheer number of possible combinations—a Morphological Box with five key drivers A–E and four variations produces 1,024 possible combinations—a consistency check needs to be done beforehand: that is, an examination of the internal relationships between the field parameters to weed out configurations that contain mutually contradictory conditions. In a consistency check—which is often supported by computer software—three types of inconsistencies need to be assessed: purely logical contradictions (nonsense), empirical constraints (has never been observed), and normative constraints (will socially or politically not be accepted). In a typical morphological field, up to ninety percent of theoretically possible combinations can be reduced through a thorough consistency check.

The rest of the process is similar to the MSG methodology: Experts develop scenarios by combining highly consistent key drivers and all possible variations. The ultimate goal is not only to come up with risk and opportunity scenarios but—if at all possible—to also generate counterintuitive ideas, i.e., scenarios that lead into hitherto unknown territory. It's the latter category—counterintuitive scenarios—that open up space or bypasses for decision-makers that would otherwise not have been detected.

Step IV: Scenario transfer—impact assessment, tracking and tracing
Foresight aims at generating a holistic view of systems or emerging problems to enable policymakers to better understand the dynamics and volatility of change, the uncertainties and interdependencies of drivers, and the complexities and ambiguities within societies.

But in the world of policymakers, Futures Studies and scenarios are not of much use. This is because foresight and politics follow different logics: whereas foresight and scenario development are analytical processes, politics is driven by a completely different rationale—it is

geared towards the question of what is in the interest of actors and stakeholders.

In short: while foresight and scenario planning are apolitical, analytical, sense-making processes, a political process is guided by domestic, normative, and personal considerations. To be able and willing to assign financial resources, invest political capital, or even risk their personal credibility, policymakers need evidence that foresight will produce better results than muddling through—in other words, to assess how likely the emergence of a high-risk or an opportunity scenario is before they make their choices.

Step IV of a foresight and scenario planning exercise—the so-called "scenario transfer"—aims at connecting these two rationales. To start a scenario transfer and spur thinking about implications and policy options, observations and recurring themes (patterns) from a foresight and scenario workshop should be formulated as hypotheses. Policymakers can then start a debate about the robustness of current policies and instruments.

Hence, decision-makers need a transmission belt to make use of scenarios in their daily work. To be able to react timely to developments, they need an early warning tool that helps them to detect scenarios unfolding in the real world. It is therefore essential to underpin critical scenarios with a set of distinct indicators—observable phenomena that can be collected, reviewed, and evaluated over time. Indicators enable policymakers to track events, spot emerging trends, separate relevant information from noise, and avoid surprise.

To fulfill all these criteria, indicators need to be "hard." That is to say, they should ideally be measurable signposts that point to the emergence of a single plausible scenario, not others. Practice shows that setting up lists of indicators can become a quite cumbersome task. But to be of use for policymakers, the development of indicators and "policy incubators" (workbenches for strategy elaboration) is indispensable.[13]

Epilogue: Thinking the unthinkable and reconsidering institutional frameworks
Business-as-usual will no longer do; this is all too obvious. If political leaders want to stay behind the wheel, they need to better understand the fundamental drivers of change in our VUCA world. Only then will they be

able to develop realistic policies and formulate robust strategies to promote or—if necessary—defend them.

Based on Leon Fuerth's experience as national security advisor to Vice President Al Gore, a combination of the following measures could significantly improve political decision-makers' ability in anticipatory governance and early warning:

- Inter-departmental integration of strategic forward engagement methods in the policy planning process
- Introduction of horizontal budget lines, geared towards inter-departmental, long-term future objectives rather than to departmental concerns
- An intra-governmental network for orchestrating and implementing holistic governance approaches
- Systematic, comprehensive impact assessment of policy, based on a range of time horizons and policy alternatives (ex-ante, ad interim, ex post)
- A monitoring and feedback system that continuously questions requirements, expectations, and political performance, creating a self-learning system

Yet Futures Studies can never be a substitute for political decision making. Rather, it may be thought of as a reframing process that allows for a deeper understanding of major drivers of societal change, interpreting weak signals of change, and thereby considering plausible alternative futures.

In this way, anticipatory governance can improve not only political performance at all levels, but also help consolidate the legitimacy of state institutions and democratic processes. Without a better understanding of the future and management of change, the risk exists that the floodgates will be thrown open to populism, extremism, and fear-driven debate.

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References

[1] Fukuyama, F. (1989). "The end of history?" *National Interest*, Summer; Fukuyama, F. (2007). "The history at the end of history," *Guardian* (3 April 2007).
[2] Will, G. (2001). "The end of our holiday from history," *Jewish World Review* (12 September 2001); Zakaria, F. "The End of the End of History," *Newsweek* (23 September 2001).

³ Schwartz, P. (1991). *The Art of the Long View: Planning for the Future in an Uncertain World.* New York: Crown Publishing Group, 31; Klein, G. (2007). "Performing a project premortem," *Harvard Business Review* (September 2007).

⁴ Gowing, N. and Langdon, C. (2016). *Thinking the Unthinkable: A New Imperative for Leadership in the Digital Age.* London: Chartered Institute of Management Accountants, 4–5.

⁵ Fuerth, L.S. and Faber, E.M.H. (2012). *Anticipatory Governance—Practical Upgrades. Equipping the Executive Branch to Cope with Increasing Speed and Complexity of Major Challenges.* Washington, DC: Project on Forward Engagement/Elliott School of International Affairs, George Washington University.

⁶ On "wicked problems," see: Rittel, H.W.J., Webber, M.M. (1973), 155–169; also: Ritchey, T. (2011). *Wicked Problems—Social messes. Decision Support Modelling with Morphological analysis [sic].* Heidelberg/ Dordrecht/ London/ New York: Springer,19–29.

⁷ Fuerth, L.S. and Faber, E.M.H. (2012), 7. See also Peppler's more simplistic definition: "Foresight is the exploitation of insight(s) to create a state of being prepared for thinking, seeing and acting in the future," in Peppler, B. (2014). "Dealing with the longer-term in intelligence practice: The application of a foresight approach," *Journal of the Australian Institute of Professional Intelligence Officers*, 22(3), 35–51.

⁸ Kahneman, D. (2011). *Thinking Fast and Slow.* New York: Farrar, Straus and Giroux. 50–8; Tversky, A., Kahneman, D. (1974). "Judgment under uncertainty: Heuristics and biases," *Science*, New Series, 185 (4157). 1124–31.

⁹ Silver, N. (2012). *The Signal and the Noise.* New York: Penguin Books.

¹⁰ Following the definition of Ritchey, a Key Driver is "a parameter that is of central importance to a process or a model, and which tends to 'drive' other parameters. A factor that influences many other factors but is itself less influential," Ritchey, T. (2011). 95.

¹¹ Heuer, R.J. and Pherson, R.H. (2010). *Structured Analytic Techniques for Intelligence Analysis*. Washington, DC: CQ Press.

¹² Ritchey, T. (2011).

¹³ Pherson, H.P., Pyrik, J. (2018). *Analyst's guide to indicators*. Tysons, VA: Pherson Associates, LLC.

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