World Politics Review

# Hide in Plain Sight: The Strategic Challenge of ‘Gray Swans’

By Michael J. Mazarr, Feb. 24, 2015, Feature

For almost a decade now, since the publication of Nassim Nicholas Taleb’s brilliant, discursive rumination “The Black Swan,” conventional wisdom has held that the biggest threats to strategy—in national security as well as areas like finance—come from sudden and unexpected events. A black swan, as Taleb named such an event, is at its core both a shock and a surprise. It is an “outlier,” Taleb writes, “as it lies outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility.” He goes on to claim that such events are the engines of history. “A small number of Black Swans explain almost everything in our world,” he argues. Social life “is the cumulative effect of a handful of significant shocks.”

There is no question that genuine surprises do crop up and pose a significant challenge to strategists. Taleb was right to focus attention on black swans, and building resilience against unanticipated shocks is a key priority for organizations and nations alike. But in the excitement about this one category of strategic challenge, too little attention has been paid to what ends up being a much more common problem for strategy. This is the black swan’s little cousin: the “gray swan.”

A number of recent crises and calamities, from 9/11 to the 2008 financial meltdown, suggest that the factors that most often upend strategic intent aren’t surprises that no one had anticipated. The much more common problem for strategy and strategic planners comes from risks that can be anticipated and that are discussed, debated and sometimes measured, but which remain fundamentally improbable and for that reason are subsequently disregarded. As national security institutions struggle to deal with the implications of an increasingly complex and unpredictable world, it will be critical to keep this distinction in mind.

## Categorizing the Swans

As so often occurs when a phrase becomes a cliche, the true meaning of a black swan has been somewhat lost. Taleb was very precise, though, in defining this specific category of strategic surprise as comprising totally new and unexpected threats that had not been, and in many ways could not have been, anticipated. They cannot be predicted from existing patterns because, as he writes, “nothing in the past” would lead us to expect them, even if leaders feel the need, once they do occur, to concoct post-facto rationalizations and claim that they had seen them coming all along.

It is easy enough to understand why strategy, which by definition deals with contextual factors that can be identified and integrated into a model of strategic logic, would founder on the demands of such improbable events. The most common means of assessing risk, such as the elaborate models developed in the financial sector, rely on established and reliable patterns likely to continue into the future. Strategists and risk managers, then, without necessarily being explicit about it, typically focus on the majority of risks that can be identified and, often, quantified.

Black swans are not like that. By definition they reflect non-normal events falling outside the parameters of standard distribution. As Taleb writes, "If you know the stock market can crash, then such an event is not a Black Swan." But even a brief look at a number of recent disasters suggests that, understood this way, black swans are extraordinarily rare. Much more common is a situation in which a risk was well understood—that is, decision-makers knew it could happen and discussed the possibility. The problem wasn't that they couldn't conceive it, but that they didn't do anything about it. This category of event can be understood as a gray swan.

However, most sources that define gray swans point only to this idea of challenges that are well appreciated but unlikely. One defines them as "unlikely occurrences that are just likely enough that they should be anticipated"; another refers to a gray swan as an "event that can be anticipated to a certain degree, but is considered unlikely to occur and may have a sizable impact . . . if it does occur." I propose a more specific definition: A gray swan is an unlikely but fully conceivable risk that lies well within the bounds of experience and has been openly discussed, but becomes discounted and fails to generate mitigating actions. My definition, then, marries two distinct ideas into a single concept: risks that are conceivable but unlikely, and possible events that fail to mobilize effective responses.

These two factors need not go together, of course. We could imagine an unlikely event that, once discovered, generates immediate and decisive action. Joining the factors, though, gives us particular insight into the origins of many tragedies, in national security as well as economics. Viewed in this light, gray swans form a very common and specific category of strategic challenge that is characterized precisely by the combination of these two characteristics: They are known, but unlikely; and for closely related reasons, they are dismissed. Because they sit at the uncomfortable boundary of the predictable and the uncertain, gray swans don't carry enough immediacy to generate action. As a result, they fade into the background of the daily rush of strategy, policy and process.

Taleb suggests that if you know something can happen, "then it won't be a black swan, and you will not be surprised" if it does occur. But that's exactly the problem: Awareness does not eliminate surprise. Knowing that something could happen is not enough. The proof is that we are routinely surprised by things we have long considered as possibilities, whether financial crises, cyber attacks or terrorist attacks. Somehow, we wrote them off, so that their arrival caused shock and disaster.

Yet just about every major "surprise" risk of the past half-century in finance and national security affairs was well within the range of the conceivable. Indeed they were conceived, warned about and deliberated upon. They had been outlined in passionate memos and argued over by top leadership. The problem wasn't that they were bolts from the blue or inconceivable. The problem was that, for whatever reason, the key leaders who considered them thoroughly did not see a reason to respond in time.

## Risks Understood—and Ignored

The terrorist attacks of 9/11 are a good example. Taleb categorizes 9/11 as a Black Swan: "[H]ad the risk been reasonably conceivable on September 10," he contends, "it would not have happened." But of course, not only was the risk conceivable, many senior officials considered a large-scale al-Qaida attack on the United States a near certainty in precisely that time frame. Then-counterterrorism czar Richard Clarke's memoir of the prelude to 9/11 makes clear that he and his team had been warning about the rise and intentions of al-Qaida for years. When the George W. Bush administration came into office, Clarke writes, he briefed all the senior officials that "al Qaeda is at war with us, it is a highly capable organization . . . and it is clearly planning a major series of attacks against us." Clarke followed up that stark claim with a memo on Jan. 25, 2001, in which he sketched out the risk from al-Qaida and called "urgently" for a principal-level review of the threat. Some warnings even discussed the possibilities of terrorists using airplanes as weapons; the World Trade Center itself had been the subject of a botched previous attack.

This is why the 9/11 Commission report didn't speak of a black swan. It identified the reason for our vulnerability as a "failure of imagination," an inability to take known risks seriously. "The 9/11 attacks were a shock," the commission concluded, "but they should not have come as a surprise. Islamist extremists had given plenty of warning that they meant to kill Americans indiscriminately and in large numbers."

Another example of the perils of gray swans is the emergence of postwar chaos in Iraq following the 2003 U.S. invasion. This catastrophe lay entirely within the realm of experience, given the postwar instability that had occurred in the wake of so many other interventions. Analysts, officials and military officers in the Joint Staff, the State Department, the RAND Corporation and elsewhere had written of the potential for such a collapse in the aftermath of the invasion. The issue was discussed at the highest levels of government. Specific proposals to mitigate the risk were made and considered. But nothing was done, and when chaos did erupt, it was hardly a surprise to the dozens of people who had warned about it and urged action.

The statistician and decision theorist Nate Silver has argued that when we study the biggest violations of risk expectations, the issue wasn't that "nobody saw it coming." People most always discuss and at some level comprehend the risks. It's just that they don't adequately appreciate them, or act to mitigate them, for reasons ranging from overconfidence to motivated reasoning to avoidance to herding. The gray swan lies in wait to ruin us as we stroll blithely ahead.

**Financial Gray Swans in 2007-2008**

The same pattern held true in the 2007-2008 financial crisis, an event that was also entirely within the range of experience: Speculative bubbles followed by financial crises have been a recurring part of the economic landscape for centuries. In the mid-2000s, plenty of warnings cropped up, many of them high-profile and some coming from the very government officials charged specifically with avoiding the accumulating risks of debt, subprime mortgages and complex derivatives.

One of the most famous of these cautions was Warren Buffet's statement, as early as February 2003, that complex derivatives were "financial instruments of mass destruction, carrying dangers that, while now latent, are potentially lethal." Prominent economists like Robert Shiller and Nouriel Roubini made well-publicized statements of accumulating dangers, and even then-Treasury Secretary Henry Paulson argued in 2006 that a financial bubble posed serious risks. Senior risk executives at Lehman Brothers and Merrill Lynch gave tough accounts of growing risks to their bosses. Andrew Ross Sorkin describes one Merrill official whose warnings "put him directly in the path of [Merrill leader Stan] O'Neal's ambition to be the mortgage leader on Wall Street." At the insurance giant AIG, people in and around the financial products division fully recognized the Ponzi scheme being assembled by unit head Joe Cassano. He and others brushed off the concerns.

As the business writer John Cassidy has argued, the biggest contributing factor to the subsequent crisis wasn't that the risks were unpredictable or unpredicted. The problem, he argues in an echo of the 9/11 Commission, "wasn't so much a lack of timely warnings as a dearth of imagination."

### Why Don't People Respond?

Herein lies the most perilous challenge to strategic judgment: not that risks arrive out of the blue, but that the warnings, when they come, are ambiguous and ignored. The key question is why, and the answer might be found in an interconnected range of psychological and human dynamics that skew risk perception.

For one thing, it can be costly to respond to risks, which can call for expensive, time-consuming mitigation measures. Sometimes taking dangers seriously might mean relinquishing a treasured concept of how a strategy will unfold or even, as in the warnings of post-invasion chaos in Iraq, rethinking the whole design of the operation and perhaps its feasibility. In other cases, such as the pre-2007 financial warnings, mitigating risk can be costly in terms of lucrative opportunities that are lost and huge profits foregone.

Second, senior decision-makers appear to suffer from a sort of "warning overload." Leaders juggle dozens of major issues every day, and on at least a few at any given time they are likely hearing breathless claims that a disaster is in the offing. Part of the task of senior leaders is to apply considered judgment to such doubts and avoid overreacting to risk-averse advisers who would find a way never to take any action at all. But one possible implication of this steady diet of generalized warnings could be to dampen the effect of specific ones. Such a phenomenon could also be related to what has been called "decision fatigue": The mental energy required to make decisions is a finite resource. Confronted each day with so many choices, senior leaders naturally seek energy-conserving strategies, while avoiding tasks that consume time and energy, such as an in-depth analysis of a particular warning.

A third factor obstructing action is closely related to warning overload and has to do with the institutional culture of operational organizations, whether business or government. These tend to be characterized by a "can do" culture of action, in which senior leaders are judged by their ability to make things happen, not to avoid danger. Bold achievements are revered; avoiding risks long before they emerge doesn't typically advance one's reputation as a leader. The result is to create a culture inherently resistant to warnings—and one that all too often treats those who offer them as annoyances or, at best, well-intentioned fussbudgets.

A fourth major barrier to taking risk seriously, and one of the fundamental psychological biases affecting decision processes, is wishful thinking. Leaders tend to believe their projects will turn out well. Combined with the "can do" culture of much of business and government, the result is to ignore warnings, often to disastrous and tragic effect. Wishful thinking also magnifies the effect of decision fatigue, because mentally exhausted leaders seem to actively resist the complex analysis demanded by gray swan risks and instead assure themselves that everything will turn out fine. This can then become a form of avoidance: When confronted with unhappy possibilities, our minds close off, extending a metaphorical stiff-arm to consideration of inconvenient facts.

Fifth, warnings can collide with the deeply held presumptions that inspired the action in the first place. Those who worried about the risks embedded in complex financial derivatives were up against the widespread and overwhelming belief that no firm could abandon these profit-spewing monsters as long as others kept using them. Those who pointed to the dangers of post-conflict instability in Iraq had little chance against the deeply held assumptions and desires of the invasion's advocates.

Sixth, the very act of warning can offer a false sense of security. Having heard out the skeptics and discussed the risk, senior leaders might check some sort of mental box and move on. Taking the next logical step—

spending time, effort and resources in order to mitigate the risk—is often neglected, especially when it requires exhaustive mental energy.

Finally, gray-swan dangers can be dismissed because decision-makers are in the thrall of an urgent imperative. That is, they feel that they must act because of some organizational or strategic or personal demand. In such cases, the risks associated with taking action become largely irrelevant. Many senior Bush administration officials quickly concluded after 9/11 that Saddam Hussein could not be left in power and brooked no debate on the issue. Many financial leaders in the run-up to the 2007-2008 crisis, seeing the profits their rivals were raking in, felt pressed by a bitterly competitive environment to engage in the same risky derivative speculation as everyone else. Once an imperative is in play, judgment is substantially foreclosed and warnings will have little effect.

**The Impossible Need for Certainty**

If warnings of gray swans do not generate action, it is also because they are always qualified, as they take place in a context of radical uncertainty. Whether consciously or not, senior leaders are instinctively aware that they are operating in such an environment, at many levels. Faced with a lack of knowledge of all the variables—and because, even with perfect knowledge, no one can anticipate the impact of individual choice—forecasting beyond very narrow parameters is not possible. The British economist G. L. S. Shackle, having posed the question of how a decision-maker faced with such radical uncertainty should respond, concludes that "If we ask what in such a case it is rational to do there is no answer, if rationality means choosing the most preferred among a set of attainable ends."

This, in fact, is also Taleb's main argument. His work is a damning and dazzling indictment of linear, probabilistic models of analysis that aim for a best or "right" answer, and a plea to take seriously the implications of uncertainty. For our present purposes, though, the main implication is that a context of uncertainty hampers the ability of advisers to warn and of decision-makers to take those warnings seriously: Those issuing warnings will never be able to be unequivocal enough to force action—and it is precisely in such an environment that psychological dynamics like avoidance and wishful thinking will be used to brush aside concerns that are raised.

Historical cases suggest that this sort of "ambiguity under uncertainty" explains why intelligence warnings are often ignored. Frequently, calamities chalked up as "intelligence failures" are really failures to respond to warnings that were in fact delivered, but just not specifically enough. Decision-makers want an unambiguous warning, but the equivocal evidence available to analysts seldom allows such precision. This shortfall will then be magnified by the bureaucracy that separates a warning from decision-makers in a position to take the mitigating action needed to respond to it. As risk or intelligence products run through the required approval chain, they are often edited and watered down into nondescript statements of the obvious. This level of warning will seldom be sufficient to overcome the powerful barriers to responding to warnings or gray swans outlined above.

A notable example of the role of uncertainty in dampening warnings can be found in the U.S. intelligence community's attempts to raise the alarm about the potential for chaos in Iraq in 2003. Various high-level intelligence products joined policy warnings in predicting that sectarian divides, the lack of a democratic political culture and typical post-liberation violence would pose serious threats to post-invasion stability. The products were distributed to senior officials up to and including the president. And according to discussions with a number of officials who received these products, the warnings were brushed off largely because they were so highly qualified. A highly contingent warning is far easier to ignore, especially when leaders are in the grip of imperatives and wishful thinking. Of course something bad might happen—and then again it might not. Such a mere possibility will not be remotely enough to overturn deeply held ambitions.

**Taking Gray Swans Seriously**

This, then, is the most severe problem facing senior leaders and strategists, whether in business or government. It's not that their plans will be ruined with shocks they'd never considered, although such things do happen. It's that they are balancing any number of major issues for judgment, each of them containing substantial risks, but only some of those dangers—though understood, fully in line with many existing trends, discussed and sometimes debated at length—will become the gray swans that lead to disaster.

The primary challenge for large institutions, then, is not making themselves resilient to the arrival of totally unheralded black swans. What is needed most of all is a set of strategies for better analysis of and responses to gray swans. That is essentially a warning and risk-management problem, and there are a number of strategies that might improve institutional batting averages versus gray swans.

First, institutions should cultivate a culture of valuing warning. Arguably the single most important characteristic of organizations that avoid gray swans is their dissent-accepting culture. They make clear that they value warning, reward those who offer it and create mechanisms to ensure that the organization cannot avoid dealing with them. From military units to companies like Berkshire Hathaway to investment firms like Goldman Sachs, there are organizational personalities that are characteristic of enterprises that treat gray swans seriously.

Second, they should include sections on formal risk assessment and mitigation steps in any strategy document or risk management process. This somewhat mechanistic but still useful action could help make dealing with gray swan issues an institutional habit. If the challenge of "possible but unlikely risks" is put front and center in any strategy process, participants may be less likely to fall victim to the human dynamics noted above.

Third, they should train analytical staffs—risk managers, intelligence analysts and strategists—in the skills of conveying warning. Offering warnings and the practical challenge of conveying risk is far from a straightforward or easy task, and much of the literature on risk and warning has to do only with large-scale public notices. Intelligence professionals are trained in warning techniques, but even they face great challenges breaking through pre-established thinking, and those concerned with risk in business or other government agencies seldom take the same conscious approach to issuing warnings. Conducting research on effective warning techniques, and training risk and strategy professionals in such approaches, could help deal with gray swans by making it less likely that the warnings will be ignored.

Finally, in order to address the personal aspects of the issue, institutions should post individuals who are highly respected by senior leaders in key risk and warning positions. Risk assessment and warning is a highly personalized affair. Senior leaders tend to take warnings more seriously if they come from people they respect; a major lesson of the financial crisis is that a perception of risk, or the lack thereof, is highly dependent on the perceived character and talent of the person or group overseeing the risk. Any position required to offer warnings and make senior leaders take notice should be staffed with people who are personally or professionally close to the organization's chief.

In a strategic landscape characterized by radical uncertainty, disaster is much more often a product of known but underemphasized risks than it is the result of totally unforeseen shocks. Large organizations would do well to cultivate the sort of resiliency required to deal with the unpredictable. But they would benefit on a more regular basis from taking seriously the peril of gray swans and organizing their risk and decision processes to account for them.

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