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The Fox and the Hedgehog: Contrasting Approaches to Anticipating the Environment

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In this article, Dr. Randy Borum uses the ancient metaphor of the fox and the hedgehog to discuss different ways of thinking about the global security environment. He suggests that in a complex, interconnected and rapidly changing world, more agile, adaptive, intellectually diverse fox-like approaches will be needed to anticipate and adapt to what lies ahead.

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The Fox and the Hedgehog: Contrasting Approaches to Anticipating the Environment

Randy Borum

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Introduction

Anticipating, though not predicting, the future environment is an essential part of strategic planning[i]. Over the past 20 years, however, the global security environment has become increasingly complex. Navigating the contemporary environment requires a different mindset than was needed during the Cold War. Leaders most likely to succeed are those who embrace uncertainty, are highly adaptive, constantly learning, and know how to maneuver incrementally and with agility. In this paper, I will refer to them as foxes.

The fox and the hedgehog are popular metaphors for two different styles of thinking[ii]. The fox is more diffuse, with a breadth of knowledge and the ability to use multiple frameworks to understand the world. The hedgehog is more focused, with deep knowledge of one thing, using a single idea or frame of reference. Not everyone fits neatly in one of the two categories, but they may tend toward one side or the other.

The exact origin of this typology is not completely clear, but it is known to have appeared at least 2,500 years ago in the writing of the Greek poet, Archilochus, who said: "The fox knows many tricks, but the hedgehog knows one big trick."

Foxes seem to know something about everything, while hedgehogs seem to know everything about something in particular—that one big trick. Throughout history, there have been some phenomenal hedgehogs whose single, unifying big ideas transformed entire fields of inquiry. It was true for

Freud and the concept of the unconscious; for Marx with his idea of class struggle; and with Darwin and his proposed process of natural selection.

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Hedgehogs are the most sought after commentators on TV and the first to volunteer their insights and predictions. In recent years, the hedgehog concept has become the aspirational ideal in the business community as well. In his book "Good to Great", former Stanford business professor Jim Collins evangelizes the way of the hedgehog[iii]. In his study of what makes business highly successful, he found that the great companies were those that focused only on one thing and did it well.

As a business tactic, there is merit to the hedgehog idea, but as a competitive strategy and approach to the future, it needs to be put in context. As Collins tells the story, the cunning fox tries day after day to catch the hedgehog. The fox tries to be faster, smarter, trickier, but every time the hedgehog just hunkers down and curls into a spiny ball. The frustrated fox just walks away. In Collins' words, "the hedgehog always wins." Presumably he means this to be true of the literal and metaphorical hedgehogs.

But here is an update from nature – in some parts of the world, foxes are, unfortunately, believed to be responsible for large declines in hedgehog populations[iv]. It turns out the foxes have adapted, but the hedgehogs have not. Foxes have learned to leap at the hedgehog, knowing the hedgehog will hunker down. The fox then skulks away a couple of feet behind the hedgehog and sits quietly. Thinking the threat has passed, the hedgehog begins to uncurl, extends his rear legs, and the fox leaps on him from behind and grabs the legs before the hedgehog can pull himself back in, and the hedgehog doesn't win.

Despite the hedgehog's mastery of the hunker down defense and the fact that he may do it better than anyone else in

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the animal kingdom, he is vulnerable to the more agile and adaptive adversary.

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Foxes and hedgehogs tend to look at problems and approach the future in strikingly different ways. One approach is not inherently better than the other, but different styles work better in different environments. Curling into a ball works well with small predators, but not so well with oncoming cars. So, what are some of the differences between foxes and hedgehogs?

When it comes to strategy and planning, hedgehogs are characteristically determined. They pick a strategy and stick to it - even when things are not going their way. They are the same way with their ideas. They have a single set of principles or a framework that guides them. When new information comes in, they either squeeze it into their framework, or dismiss it if it doesn't fit. Hedgehogs interpret an evolving reality to fit their preconceived notions, rather than adapting their assumptions and ideas. When the world was in bipolar equipoise, hedgehogs dominated global security strategy, and they did it effectively[v].

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Foxes, though, tend to be adaptive. If a plan isn't working, they'll look at ways to change. They are open to new information. And if new information does fit with their original formulation, they will re-think their strategy.

Hedgehogs and foxes also differ in their intellectual values. Hedgehogs like to accumulate knowledge, but foxes are focused on learning. In a competition, hedgehogs seek to know more than their competitors, but foxes focus on new ways to acquire and apply knowledge.

When they anticipate the future, hedgehogs and foxes also handle forecasts and foreknowledge quite differently. After hedgehogs come to a conclusion, they are certain they are right. They assert their position with confidence and authority. Foxes are more diffident. They are much more likely to recognize their uncertainty. Foxes are more likely to say "I don't know" or "that's what I'm thinking at this point" even "I could be wrong." That's part of the reason that foxes don't make for pithy pundits and media experts.

Finally, the two styles also assume different postures in implementing their plans and ideas. Hedgehogs set a course, and barrel ahead. Foxes tend to move in smaller increments, watching for changes at each step, ready to reassess and modify their ideas as necessary. They nudge their way through change.

We do not want to do away with the hedgehogs, but as the security environment becomes more cluttered and complex, we need more foxes. Psychologist Philip Tetlock some years ago did a large-scale study looking at expert predictions of future events[vi]. As a whole, experts were terrible forecasters, but some definitely did better than others. This led Tetlock to compare the hedgehog and fox-like styles.

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Hedgehogs tended to be confident, decisive and steadfast in their opinions. They were also the worst predictors. In fact, as hedgehogs gained more knowledge and fame (as measured by media appearances), their forecasts actually became less accurate.

Foxes, on the other hand, tended to be less sure, more nuanced, and more adaptive. Though the foxes' predictions were not great, they consistently outperformed the hedgehogs. As their knowledge increased, their forecasts actually became more accurate.

As we face the security challenges that lie ahead, critical decisions depend on our ability anticipate them. But the future environment will not make it easy. In the past, the world may have seemed more orderly and predictable, but it is now increasingly complex, interconnected and highly dynamic. As the US Army War College concluded, the conditions are volatile, uncertain, complex, and ambiguous (VUCA)[vii].

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A fox-like style is a good fit for this kind of complex, interconnected world, and that is why, as we train the next generation of strategists, we need to be nurturing more foxes. Hedgehog approaches are fine in a stable environment but they can quickly break down when conditions are unstable. Hedgehogs struggle with complexity and change - they want reality to fit within their preconceived ideas. Foxes are more comfortable with uncertainty and change.

When faced with a rapid pace of change, foxes will adapt. When the environment is unpredictable, foxes are less likely to fight or deny the uncertainty; they embrace it. They will constantly question their own appraisals and re-examine their assumptions.

With increasing complexity, foxes engage by learning. They look for non-linear interconnections. They take a systems-oriented view to understand how different factors and parts of a process affect each other.

And when navigating in a fog of ambiguous signals and outcomes, foxes will move ahead incrementally. This makes them more agile and adaptable than if they went full speed ahead on an unmodifiable course.

As we muddle through this century and prepare leaders and strategists for a 21st Century security environment, governments, militaries and businesses need to be nurturing more foxes – strategists and problems solvers who are constantly learning and adapting.

Leaders with fox-line inclinations should use their strengths to help others navigate a disorderly global environment. For those whose natural affinity lies more with the hedgehog, I would like to offer three suggestions for how we might better value foxes in the study and practice of strategy.

do not mistake certainty for accuracy

First, do not mistake certainty for accuracy. The scientific literature on decision making is replete with studies showing that confidence and accuracy are often not highly correlated[viii]. Being more confident does not make it more likely that an analyst is right. The challenge, of course, is that confidence is often persuasive[ix].

Two domains of confidence are at issue here self-confidence and source confidence. We need to monitor both, but understand the difference between them. With self-confidence our subjective experience of confidence is often tangled up in our assessments of accuracy; that is whether we (or our viewpoint) is “right.” From research, we know that overconfidence is ubiquitous. Most people are much more likely to over estimate than to under estimate whether what they know/believe is correct. Knowing this, in any given instance, we can just downwardly adjust our own confidence and assume that we are calibrating it in the right direction. Another useful tool is to intentionally seek evidence that supports a contrary position. Because we usually are drawn to information that supports what we think and dismiss information that contradicts it, this intentional exercise can serve as a counterweight to our typical human biases.

With source confidence, we must be mindful that if we are typically more confident than right, then the analyst, briefer, or other persuader is too. Some will boldly saunter in with an “obvious answer.” In these instances, we have to take extra care to separate the objective evidence from the subjective experience and the delivery. We may need to re-orient ourselves to listen to ideas that start with “what if...” or “I wonder what would happen...” or “this may seem silly, but...” Those ideas do not have to prevail, but they should not be summarily dismissed. Quiet voices can also speak truth.

Second, do not mistake broad interests with being scatterbrained. We should not look only to the input of international relations scholars. The successful strategist of the future is likely to be trained across several disciplines. This is a positive trend because some of the greatest innovations in history have come from introducing a new or a borrowed perspective on an old problem.

This is not an argument against developing or using focused areas of expertise. But sometimes when we have one “big idea”—a master theory about how the world works—it is easy to stick our arrow in the target and just paint the rings

around it. Colin Gray reminds us: “beware of the pretentiously huge idea that purports to explain what everybody else, supposedly, has been too dumb to grasp.” Reading (and knowing) military history can be incredibly valuable, but if that is all you consume, you might miss out on some opportunities for innovation or for having new frames of reference that can help you adapt.

The future is inherently uncertain so it is foolish to act like it is not.

Finally, don’t mistake being adaptive for being wishy-washy. The future is inherently uncertain so it is foolish to act like it is not. As Colin Gray has so wisely noted “If you spend a lot of time talking about the future you can forget that you do not really know the subject[x].” Re-evaluating decisions and changing course are not the trappings of intellectual cowardice. Adaptability is a virtue. “Commitment” should be valued, but over-commitment to our own ideas and plans should not. When our wish for a particular outcome makes us unable to see that it is not attainable, or at least not attainable though the current course of action, then commitment is replaced by stubbornness and pride.

Adaptiveness requires intellectual humility. We must be willing to examine and question our own assumptions, and embrace the question “why.” Sometimes tactics are applied or actions are chosen simply because they are doctrine. But it is useful for adaptive leaders to also explicitly consider the fundamental question: why (and on what basis) do I think this particular course of action is likely (or more likely than others) to lead to my desired objective. This is a potentially useful way to navigate strategic intent[xi]. Think about how you know, not just what you know. And don’t chop off “the other hand.” You just might need it later.

Conclusion

Facing the future, security and defense leaders will need more fox-like thinking to help us muddle through the VUCA and work on solutions to critical world problems. As the global security environment has become increasingly complex, these leaders have had to shift mindsets. In a bipolar world with one big, state-based threat, security contingency planning was manageable. There was no hand-wringing about what the big threat would be, where it would be, or who the key actors were likely to be.

Now, though, we are faced with dozens of failed or failing states dispersed around the world, criminal threats to national sovereignty, and a host of nonstate actors including militias, warlords, and illicit transnational networks with diverse agendas, all leaving long trails of brutal, indiscriminate violence, unrestrained by international conventions and laws of armed conflict[xii].

Strategic leaders need not only to adapt to the new environment, but also to how they think about the security environment.

Strategic leaders need not only to adapt to the new environment, but also to how they think about the security environment. Those who are vexed by the transition might seek and use the perspectives of others whose approach is more like that of the proverbial fox. Tolerating and managing

uncertainty will be an essential skill set. Leaders, as they navigate the terrain, will be increasingly challenged to adapt, to learn, and to innovate. Plans will need to be flexible and responsive to external changes, using incremental moves to preserve agility. To make it work, we may need more foxes[xiii].

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