Learning to Navigate Uncertainty

Dedicated to Bill Dean: The catalyst for turning the theoretical into the applied

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Over the last 30 years, my primary research and practice has been focused on the question: Why do some people make it while others don't? Throughout the last 10 years, in my partnerships with the Mission Critical Teams in the domains of Military Special Operations, Emergency and Trauma Medicine, Tactical Law Enforcement, NASA, and Urban and Wildland Fire, the question has become more specific:

> *How do we help people learn to more successfully and sustainably navigate uncertainty in the face of rapidly emergent complex adaptive problem sets?*

Recently, an Operator pointed out that the phrase "in the face of rapidly emergent complex adaptive problem sets" sounds pretty complicated and confusing—and asked me to summarize what I have learned thus far. This paper is my response.

Question #1: Do You Feel A Responsibility To Keep Your Family, Or Your Team, Safe?

"Yes" is a reasonable and moral response to this question, as it is hard wired into us to protect our family and our tribe. Yet, when we take a moment to actually interrogate the word *Safe,* we discover that it is actually one of humanities oldest words, being traced back to the Latin *Salvus* (Simpson & Weiner, 1989).

salvus (ante-class. **-vos**), a, um, *adj.*
[root sar, sal ; v. salus], *saved, preserved, un-harmed, safe, unhurt, uninjured, well, sound,* etc. **I.** In gen. (very freq. and class. ; syn. : sospes, sanus, incolumis): Mars pater, te pre-cor, pastores pecuaque salva servassis duis-que bonam salutem valetudinemque mihi, etc., an ancient form of prayer in Cato, R.

If you notice the last line of the definition, written by Cato the Elder, who served as Consul of the Roman Republic Between 195 BC – 194 BC, *Salvus* was described as "An Ancient form of Prayer (Lewis & Short, 1879). By the 10th century, the word *Safe* had evolved to mean someone who had reached sanctuary or "attained eternal salvation" (Simpson & Weiner, 1989). Up until modern times, the concept of Safe was seen as an aspiration or a prayer, until it evolved into:

Safe: Free and Secure, from Danger, Harm, Injury and Risk (Simpson & Weiner, 1989).

The modern definition denoting a sense of certainty, which doesn't address, as the philosopher Ian Hacking once commented, that the ancient definition of "Certainty" was "That which only God can know (Hacking, 2001)."

If we are to improve our ability to navigate uncertainty, we will need to start by reconciling this tension between the deep desire to keep ourselves, and those we love *Safe,* with the clear understanding that we can never achieve *Safe.* To do this we will start by being truthful with ourselves about our lived experience.

Question #2: Can You Identify A Moment In Your Entire Life Where You Were Free And Secure From Danger, Harm, Injury And Risk?

If we are completely truthful with ourselves, most of us will answer: No. Initially, this conclusion may seem overwhelming, and even scary, as we try not to think about all the random events which might result in harm or injury. Consider, however, that it may be that what we really want isn't the *state* of being *Safe*, but the *feeling* of being *Safe*. It is why the phrase "Safe and Secure" has been passed down through the generations. It is the acknowledgement that humans are equally both rational and emotional (Kahneman, 2011). The word *Secure*, comes from the Latin *Securus* and was used in Ancient Rome to describe the *feeling* of being safe.

sē-cūrus, a, um, *adj.* [sē = sine and cura], i. q. non or nihil curans, *free from care, careless, unconcerned, untroubled, fearless, quiet, easy, composed.* **I.** Lit. **A.** In

Like the word *Safe,* the definition of *Secure* has remained largely unchanged for over two thousand years:

Secure: Free from care, apprehension, or anxiety; carefree, untroubled (Simpson & Weiner, 1989).

While rationally we may understand that Safe is a prayer, we still need to *believe* we are secure. Unfortunately, the human brain will do all sorts of things to make us *feel* we are secure when we are not. We will hand our decision making over to charismatic religious and political leaders, we will medicate ourselves to numbness, we will hide under the blankets from the monsters under our bed, and all sorts of other machinations to avoid the scary reality of an uncertain and ambiguous world. So, How do we resolve this tension between the impossibility of *Safe* and the yearning for *Secure*? We can start by exploring those periods of transition in our lives where levels of uncertainty can seem the most overwhelming.

Question #3: Do You Embrace, Or Fear, Transition?

It turns out that most of us will experience increased anxiety during periods of transition (Wheaton, 1990). Do you remember the transition from high school to what came next? military, work, college, etc. That feeling where we knew we were no longer high school students, but we had not yet become the person we were to become? Reflecting on these big transitions matter, because they are when we are acutely aware of navigating uncertainty. Will I get the job? Will she like me? Will I find belonging and connection? These transition periods are referred to as *liminality,* from the Latin "a threshold" (Turner, 1995), where we are caught betwixt and between who we once were and who we will become.

> ***Liminality:*** *A transitional or indeterminate state between culturally defined stages of a person's life* (Simpson & Weiner, 1989).

Like an ocean surf zone, it is a place where the individual must learn to ride the rhythm of the waves or chance being pulled under. It is a period that produces both anxiety, but also hope, as old truths become indeterminate and new paths are revealed (Turner, 1995; Van Gennep, 2011). These types of transitions, and thresholds, are ever present (both large and small) in our lives and they provide us the opportunity to determine whether we will prepare or react. The trick is to understand that the situational shift (the new job, new relationship, etc.) isn't the true transition.

The actual "transition" requires that we not linger in liminality by letting go of the way things used to be and embracing the new reality that is emerging (Bridges, 2001). To be intentional about ending one part of our life, to begin the next part of the journey.

The challenge, with many of these transitions is that they can feel extremely urgent and as a result can trigger what is called the Acute Stress Response (ASR), or as it is also known: the Fight, Flight, Freeze response (Bracha, 2004). ASR is a fear fear-based response to perceived threats designed to keep us alive in chaotic environments, and what military boot camps are designed to rewire. For the untrained mind, however, fear-based reactions can do odd things to our brains and, if you are like me and do not want your decisions dictated by fear, we have to start retraining our brains to react differently to emergent risks and uncertainties. We can start this process by reassessing how we think about the everyday errors and mistakes we make in our lives.

Question #4: Will You Commit An Error, Or Make A Mistake, Today?

Yes, we will. There are simply too many choices in a given day to get them all correct. Yet, even knowing mistakes will be made, we will still feel disappointment, frustration, annoyance, etc. when we commit our next error. What if, however, we instead decided to start treating those errors as resources, or clues? What if we replaced frustration, with curiosity; "Why did that error happen…?" To this end, it is interesting to note that the definition of "error" begins with a journey:

> ***Error:*** *1. The action of roaming or wandering; hence a devious or winding course, a roving, winding. a. The condition of erring in opinion; the holding of mistaken notions or beliefs. (Simpson & Weiner, 1989).*

Notice that the first definition of error is not referencing a mistake, but a wandering or roving, as in a type of exploration. The teams we work with recognize that small errors represent the trickling of small rocks that often foretell of an avalanche. Rarely, do large incidents appear out of nowhere—they are typically a cascade of small unseen errors.

Moreover, when you look at the incident data from Mission Critical Teams, it is clear that we should be more concerned with the threats we bring with us, than the ones we will encounter (Reason, 1990).

In order for you to improve your ability to successfully navigate uncertainty, you have to be able to identify and talk about those moments where you failed to predict an outcome. Specifically, to be able to talk about your biases and bad habits and dare to see a different way of navigating uncertainty. To do that, we must start to intentionally interact with uncertainty, we must move toward Adventure.

Question #5: What Is Your Relationship With Adventure?

The above question is not meant to be whimsical; it is meant as a real question. The word *Adventure*, as we now understand it, goes back to the 13th century and is defined as:

> ***Adventure****: A course of action which invites risk; a perilous or audacious undertaking the outcome of which is unknown; a daring feat or exploit (Simpson & Weiner, 1989).*

When do you give yourself permission to dare? What are the prerequisites that are necessary in your life for you to voluntarily enter into liminality, rather than letting it sweep over you like an incoming tide? Comfort is deeply seductive, and it can often blind us to the changes that are happening around us. It turns out that our ability to dare, in the face of uncertainty or transitions, is often dependent on how we frame or conceptualize *Risk*.

> ***Risk:*** *The possibility of loss, injury, or other adverse or unwelcome circumstance; a chance or situation involving such a possibility (Simpson & Weiner, 1989).*

The idea that *Risk* describes the possibility of loss is common knowledge, but ask yourself this question: Do you really make decisions regarding the future of your family or team based on the "possibility of loss or injury?" Are you only evaluating your family's security by what they might lose? What about the pursuit of happiness? What about their potential for greatness, joy and fulfillment? Where do those fit as we choose to interact with uncertainty?

At this point, you may be wondering if this is all just semantics. Surely great thinkers have already considered the nature of risk and safe and we all seem to basically be doing fine. It turns out, however, that what makes sense on paper, may not always make sense in real life. At the Annual Meeting of the Society of Risk Analysis in 1996, international leaders in risk analysis were asked to define the word risk in a manner that everyone could both understand and apply.

> *Many of you here remember that when our Society for Risk Analysis was brand new, one of the first things it did was to establish a committee to define the word "risk." This committee labored for 4 years and then gave up . . . (Kaplan, 1997).*

It turns out that in trying to operationalize *Risk*, we face the same challenges we did in trying to operationalize *Safe*. But why? What is it about these concepts that make them so hard to put into practice? Part of the answer to this question is related to an editorial choice made almost 400 years ago (in 1656) in Orelton, England, by Thomas Blount.

To fully understand the significance of his decision, we must begin this story 45 years prior (in 1611), and 70 miles north, in Cheshire, England. It was there that a British lexicographer (person who writes and publishes dictionaries) named Randle Cotgrave published a book entitled *A Dictionarie of the French and English Tongues* (Cotgrave, 1611).

It was the first of its kind, as the English language was still quite young and had not yet produced a dictionary of its own. Within the book Mr. Cotgrave used the French definition of *Risk (Risque),* as French was the language still spoken in English courtrooms during that time. This definition had existed throughout the previous thousand years. It is a definition that described the historical relationship people had with risk. Risk was something that might harm you (peril, jeopardy, danger, hazard), something random (chance) and something you chose to interact with (adventure). It is worth noting that this definition was born during a time of many petty gods, whose whims made everyday life both chaotic and uncertain.

> ***Risque:*** *Peril, jeopardy, danger, hazard, chance, adventure (Cotgrave, 1611).*
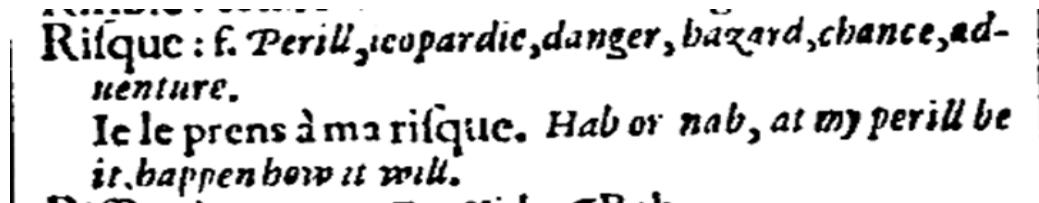
Then in 1656, 45 years after Cotgrave published his dictionary, a British attorney named Thomas Blount publishes the "Glossographia"(Blount, 1656)." It was published just two years after Pascal and Fermat (in trying to sort out a gambling problem) discovered Probability Theory (which would lead to the creation of insurance and the modern ability to prepare for the future (Gigerenzer, 1989)) and emerges as one of the first dictionaries in the English language. While he uses the Cotsgrave definition, Blount makes one significant change to the definition of Risk:

> ***Risk (Risque):*** *peril, jeopardy, danger, hazard, chance (Blount, 1656).*
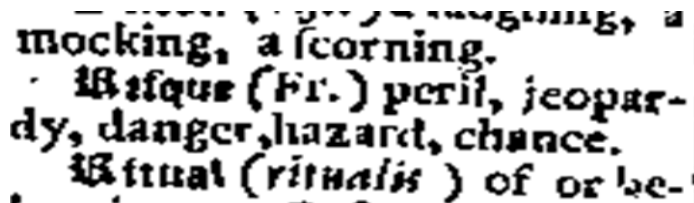
For reasons lost to history, Thomas Blount removed the word *Adventure* from the definition of Risk and in doing so took away our human choice to dare, condemning us to become the passive victims of risk, left to dwell fearfully upon our potential losses. This definition would be locked into the English language for over 200 years, when the Oxford English Dictionary would adopt it as its definition of risk (Murray, Craigie, & Onions, 1888).

Last Question: Are You Focusing on Your Objectives or Your Potential Losses?

Put another way, Do you navigate your life through fear or intention? For many of us, in those times of transition, and heightened uncertainty, it is hard not to hear the whispers of fear that come from both our own minds as well as from those we love. Those who, out of a combination of insecurity and concern, will project their fears upon us, urging caution and restraint during periods where uncertainty is at its high tide mark.

In order to overcome these internal and external voices, we should look around to see how others have successfully moved forward in the face of growing uncertainty. Almost 400 years after Blount changed the definition of risk, the world crossed a little know tipping point in our relationship with risk. Around, 1950, when the world was still recovering from WWII, a debate was raging within the British Military about how to best navigate the emerging threats within the new global geopolitical environment. There were those within the British Army that were suggesting that the British Special Forces, 22 SAS, be reformed to deal with these new threats (Asher, 2008).

While unconventional units have always been used in war, going back to ancient time, they were always disbanded immediately after the war as they would be too disruptive within a garrison army (Beckwith & Knox, 1983; Dobbie, 1944). This is why the British SAS, just like every other unconventional warfare commando unit in WWII, had been disbanded after the war (Asher, 2008). By 1950, however, with the advent of technological advances such as the computer, the jet airplane and the nuclear bomb, rapidly emergent complex adaptive problem sets were arriving faster than the British Military could build contingency plans using conventional solutions. They needed a small agile team that had the built-in capacity to intentionally and successfully interact with uncertainty. It was for these reasons, the British Military decided to do something no other government in the history of the world had ever done, it made the decision to permanently reform 22 SAS, a Special Forces Commando unit. Their motto was, and remains, "**Who dares, wins**"

It would seem that after 400 years, the world had entered a new age, where those who would adventure, who would dare, were once again needed to intentionally interact with uncertainty. Since the reformation of the SAS, vast numbers of Mission Critical Teams, designed to intentionally interact with uncertainty by seeking out, and resolving, rapidly emergent complex adaptive problem sets would emerge in Emergency Medicine, Fire, Law Enforcement, and elsewhere.

As a result, the world has begun to reconsider its relationship with risk resulting in the 2009 International Standards Organization (ISO) definition of risk:

Risk: *The effect of uncertainty on objectives (Purdy, 2010).*

This new definition allows the transition from fear based decisions, based on what might be lost, to choices, based on a growth or exploration mindset (Dweck, 2008; March, 1991), oriented toward achieving objectives. To use a metaphor, in river paddling, skiing, and skydiving, there is an expression that states, "Where you look is where you go." It refers to the fact that the head will steer the body. If we focus on the rocks, we will unconsciously steer toward the rocks. If we focus on the openings, we will remain aware of the rocks, but steer toward our potential. For the first time in 400 years, the world is starting to transition away from our fears and toward our objectives. Our challenge, in learning to better navigate uncertainty, is to move past our objectives and toward our potential.

Summary

Given the number of uncertainties in day to day life, none of us will ever truly be safe. In fact, we have never experienced a day where we were "free and secure from danger harm injury and risk." While we may understand this truth intellectually, we all still *feel* a very strong instinct and desire to keep ourselves, and those we love, Safe. That *feeling* of being Safe which we all crave, is more accurately described as our subjective belief that we are Secure; or "Free from anxiety of worry." Yet our deep desire to *believe* we are Secure makes us vulnerable to biases, delusions, false beliefs, etc., allowing us to be seduced by false security.

If we are to overcome those hidden biases, bad habits, and daily errors we need to start by identifying our mistakes, diagnosing our mistakes, and discussing our mistakes. The best place to start is by exploring those periods of transition, or liminality, when uncertainty is at its highest.

It is during those periods where we must choose our potential, over our fears, and engage in the radical acceptance that are not in full control of our world. This new perspective allows us to instead focus on those things we can control, or influence, such as being able to learn from the errors we make each day. This ability to intentionally interact with uncertainty allows us to start focusing on our objectives and not our losses, the openings rather than the rocks. It allows us to once again learn to dare.

To help us think about more sustainable ways to navigate uncertainty, let's explore some of the principles utilized by Mission Critical Teams.

Principles for Navigating Uncertainty

Principle #1: Where You Look Is Where You Go

Turns out, none of us are God. Life is filled with the uncertain and the unknowable. We must avoid the hubris, or false belief that we can be all knowing or all controlling, or we risk the wrath of the fates who took a dim few of such foolishness. By letting go of the illusion of control, however, we are able to transition our life from one of constant reaction to a singular focus on those parts of our lives that we can control or influence. **For example, while we may think we are being smart in reducing a particular risk, we may just be trading them** (Svyantek & Brown, 2000). After 9/11 so many people were concerned with the danger of flying, they chose to drive instead.

> *After controlling for time trends, weather, road conditions, and other factors, we find that travelers' response to 9/11 resulted in 344 driving deaths per month in late 2001. Moreover, while the effect of 9/11 weakened over time, a total of about 2,170 driving deaths may be attributable to the attacks (Blalock, Kadiyali, & Simon, 2009).*

In responding to their fear of flying, people sought the security of their own cars, where they were "in control" and literally drove themselves to their own deaths. This is not an argument for a fatalistic dismissal of choice, but rather a call to decide whether you will live your life in service to your fears or in service to your potential. Counterintuitively, in dynamic environments, one way to more effectively navigate uncertainty is to reduce your control over the variables. One example of this type of thinking can be seen in how a town in the Netherlands redesigned a dangerous intersection. A common belief, when it comes to four-way intersections, is that more controls make these types of intersections 'safer.' Stop signs are better than yield signs, and traffic lights are better than stop signs. What research has shown, however, is that in more dynamic settings, this may not be true. In 2000, the city of Drachten in the Netherlands decided to redesign one of Europe's most dangerous traffic intersections. They did it by *removing* all of the traffic signs and road markers, forcing everyone who approached the intersection to be proactive in navigating the crossing. In the four years prior to the removal of the signs there were thirty-six accidents at the intersections, in the two years that followed the removal of the signs, there were **two**. In both of those cases the accidents were categorized as minor (Verkeerskunde, January 2007). **To effectively navigate uncertainty, we must be clear about our objectives, before we can consider our potential losses.**

    Action: Always start by naming your objectives, then take
    actions that move you toward those objectives.

Principle #2: Fast Is Different Than Slow

To understand the most effective response to a problem, we have to first understand the problem (Cline, 2013). Your brain is designed to handle routine events differently than critical events (Kahneman, 2011). Consider, how the following scenario of trying to get a cup of water as complexity and urgency increases (Snowden, 2007):

- **Simple Problem Set:** You are thirsty, but have an empty cup and you are near a working water faucet.
- **Complicated Problem Set**: You are thirsty, have an empty cup, but the faucet is broken and needs a professional plumber to fix.
- **Complex Problem Set:** You are thirsty, have an empty cup, but the broken faucet has begun spraying water near a vital computer station while waiting for the plumber.
- **Chaotic Problem Set:** You are thirsty, have an empty cup, but the broken spraying faucet shorts the electrical circuit, putting out the lights and starting a wall fire. The room is now dark, filling with smoke and water, leading to the possibility, of electrocution, drowning or smoke asphyxiation.

Even though the task of getting a cup of water remains the same, the problem set is evolving. This means that for any given problem, you will need to determine if you will leverage pre-built contingencies, or the capacity of the team to improvise and innovate (Cline, 2017a). While contingency plans provide predictability of response to simple and complicated problem sets, they do so at the cost of the agility needed to deal with complex or chaotic problem sets. In order to prepare for both, we must transition from a control mindset, like a chess player trying to predict the opponents next move, to a gardening mindset where we create and maintain an environment of agility and innovation (McChrystal, 2015).

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Action: Ask yourself Do I own the clock? Meaning, Do I have
time to be proactive, or must I react? You always have more
time than you think.
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Principle #3: We Cannot Fix, What We Cannot Talk About

When sudden uncertainty emerges into our life, we often default to an Acute Stress Response (Saunders, Driskell, Johnston, & Salas, 1996) that triggers a cascade of unconscious pre-programmed reactions (fight, flight, freeze). Failure to update these reactions, some of which were learned as a child or a teenager (Lang & Bradley, 2010), can lead to reoccurring errors in our lives. It is these errors which turn out to be the primary cause of accidents (Helmreich, 2000; Perrow, 1984; Reason, 1990):

Human error is in existing literature cited as a contributing factor or main cause in the majority of industrial accidents and incidents. Specifically, 60-80 percent of accidents in aviation are attributed to human error (Luxhoj, 2003); 80 percent of accidents and incidents in offshore and maritime industries involve human error (Aas, 2009; Rothblum, 2002).

While errors are the leading cause of accidents, it is also true that "You have to make mistakes to learn" (Kable, 2018; Schultz, Dayan, & Montague, 1997). So, how do we resolve this paradox of knowing that errors are the leading cause of accidents, while also needing to make errors to learn. It turns out that if we transition to seeing errors as data, it allows us to move from avoiding error, toward failing fast, failing small, and failing often (Babineaux & Krumboltz, 2013). The idea is that if you are able to rapidly identify and talk about the small errors that happen in your life, you can often prevent them from cascading into larger errors. While this requires both confidence and humility, the upside is that if done correctly, acts of vulnerability can increase your overall credibility and happiness (Brown, 2015).

> **ACTION:** Ask yourself how you would want your children, or your subordinates, to recover from error. Then role model that behavior when you make errors.

Principle #4: We Cannot Talk About What We Cannot See

Knowing what right and wrong look like is not the same as being able to explain it to someone else. This is called the Tacit Knowledge Transfer Problem, and is best explained by the principle that you know how to ride a bike, but can't really explain it to someone else (Cline, 2017b). This leads to situations, where because of our limited vocabulary, we will sometimes mis-diagnose an error. For example, leaders will often judge human errors as "poor judgement," when in actuality the research shows that most errors are caused by poor situational awareness (M. R. Endsley & Garland, 2000): "…in a study of accidents among major air carriers, 88% of those involving human error could be attributed to problems with situation awareness" (Endsley, 2000), or "SA," which she defines as:

> *[Situational awareness is] the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future (Endsley, 1988).*

In simpler terms, think about the following metaphor: You are driving down the highway and, just like they taught you in driver education class, you are keeping an eye on the brake lights of the car, three cars ahead. If their brake lights come on, you should start to break as well.

This means that you know you are in a car (SA1:The perception of the elements in the environment), you know there are cars around you and you are all moving at 60 miles an hour (SA2: Comprehension of current situation) and you have enough mental bandwidth to anticipate potential braking (SA3:Projection of future status).

Now assume that you are a person that likes to snack (not pointing fingers) and you decide to eat a sandwich and drink a soda while you drive. In doing this, you have introduced additional "tasks" into the situation. Which means that you are now less likely to notice the brake lights of the car in the distance, which moves you down to SA2. Now your spouse may know you like to snack in the car (this metaphor is completely hypothetical) and may call you to "check in." Since not answering, would be an admission of guilt, you reach for the phone. So, you juggle the soda and sandwich and reach for the phone, taking even further attention away from your primary task of driving the car, moving you further down to SA1. The problem, of course, is that in your haste you spill your soda in your lap, moving you to SA0, or "Task Saturated" (SA0: Task Saturation).

In these situations, as long as no outside event (accident, car swerve into your lane, deer jump into highway, etc.) occurs, you will probably be ok. But…, if ANYTHING unusual enters your path, you will be unable to effectively Detect, Recognize, React and Respond (Cline, 2017a) to the emergent event.

> **Action:** Identify the primary tasks associated with resolving an emergent problem set, and focus only on those tasks.

Principle #5: We Must Spend More Time On Building Our Strengths Than Trying To Fix Our Weaknesses

It turns out that our brains are designed to pay more attention to negative events than positive events, to errors rather than wins (Ellsworth & Smith, 1988). One reason for this is because errors are signals to our brain that something needs to change, where moments of joy and success, don't require change (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). To overcome this bias toward the negative, Dr. Andy Walshe, a noted researcher and practitioner in elite human performance, suggests we start each morning writing down 3 things we are grateful for to shift from a "Threat to a challenge mindset and then assuming positive intent in the absence of other information (Walshe, 2020)." This transition to a positive mindset allows us to begin focusing on our strengths (your assets), rather than your weakness (your deficits) which research has shown to be optimal for high performance (Chamorro-Premuzic, 2016; Green & Haines, 2011, p. 7). Ironically, the identification of strengths is often harder for some people, because it feels like we are contradicting the humility discussed in principle #1. To resolve this, we must always remember that while knowing what wrong looks like is important, knowing what right looks like is more important.

> **Action:** Take a moment to write down your core strengths, then determine how to strengthen them even further.

Principle #6: We Need A Team

It turns out that we humans do better when we are around other humans. To paraphrase the Reverend Sue Phillips (Phillips, 2019), once we resolve our physical needs, in order to find true fulfillment, we have to recognize that each of us must feel a sense of **Belonging**, in that we feel fully known and fully loved; a sense of **Becoming**, in that we feel we are moving toward our full potential; and **In Service**; in that we feel ourselves as part of something more. A critical part of Navigating Uncertainty, and being able to resolve rapidly emergent complex adaptive problem sets, is to understand that you are not, and should not be, alone.

The challenge, and opportunity in building a team, is that everyone is different, and employs different strategies to navigate uncertainty, but different isn't bad. Think about it this way, at its core, overcoming an obstacle is about directing energy. For example, in boxing or karate, if someone tries to hit you, you block the attack and hit back. This is an exchange of energy. If you are **Robust**, you can take the hit and not be knocked down. In wrestling or Aikido, if a punch is thrown—you use the opponent's energy to throw them to the mat. This is the redirection of energy. If your opponent is **Resilient**, they can get knocked down, but be able to get right back up. Lastly, if you are like me and tired of being in fights, you will learn to become **Mindful**, and avoid getting hit altogether by getting out of the way. This is the dissipation of energy. In the face of heightened uncertainty, we all need to improve our ability to be more Robust, Resilient and Mindful, and learn when and where to apply each strategy. Too often we are all trapped by our old habits and reactions. Those of us who grew up with a robust mindset will sometimes judge those who grew up with a Mindful framework as "weak" or "lazy," while they will often be looking back at us as "stupid" or "stubborn." **Neither view is accurate and, if we are going to find sustainable methods for navigating uncertainty, we will need to learn all three skills and apply them appropriately in the face of life's obstacles** (Taleb, 2012).

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Action: Have you identified the members of your team?  Do you
know your team's strengths and weaknesses?
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Principle #7: We Must Moderate Our Consumption Of Information

When I was in the fourth grade, I wrote a two-page paper on horses. As I am of the generation of people who attended primary before computers and the Internet, I went to our school library to check out ALL four of the books that the school had on horses. At the time, those four books represented the cumulative, and agreed upon knowledge that a fourth grader needed to know to be considered knowledgeable on the subject of horses.

In 2020, a query in Google Scholar on the subject of "Horses" returns "About 2,000,000 results" in "0.09 seconds" (Google, 2020). Which of those 2,000,000 articles should I read today, if I wanted to be considered knowledgeable on horses? The obvious point is that the volume of information at our disposal has overwhelmed our ability to absorb that information. Furthermore, if we consider that researchers at IBM estimated that by 2010 the worlds information was doubling every 11 hours (Coles, Cox, Mackey, & Richardson, 2006), our codified knowledge on

horses will have changed, by some measure, before I finish this paper. The reason this "Rate of Change" problem matters (Cline, 2017b), as it relates to Navigating Uncertainty, has to do with what the military calls **the 70% solution.**

It is a concept, going back to ancient times, which assumes that at any given time only 70% of the information needed to make a perfect decision is available and delaying for more information is counterproductive. Put another way, **a good decision on time is better than a perfect decision too late.** The problem, as pointed out in the previous paragraph, is that over the last several decades the speed and volume of information available to the individual has increased exponentially (Gleick, 2011). The result, is that while we are still faced with the problem of the 70% solution, we also now face the 700% problem where we have so much data and information we are drowning in it or "what we cannot know has grown even faster than what we can know" (McChrystal, 2015). This new flood of information is overwhelming our natural ability to filter weak but important signals (Taleb, 2007; Taylor, Brunyé, & Taylor, 2008), meaning that in addition to develop our ability to discern relevant information (the 70%), we now also need to develop improved methods of pattern recognition to find the best 70% within the 700% of the information we actually need. This problem is further complicated by the fact that the speed in which we are expected to communicate all this new information decreases the time needed for analysis: "The workload prevents much time for such reflection" (Bolger, 1990). **The result of these trends is that humanity has now reached a point where we must treat information the same way we treat food, alcohol and drugs, with boundaries and discipline.** As with all of those challenges of abundance, no one is coming to save you. If we are to successfully and sustainably navigate uncertainty, each of us must find a way to create discipline and boundaries around data information, place space in our schedule for reflection, and develop more intentional principles for how we will communicate.

> `Action:` Create some guidelines for yourself on your information sources and your information consumption (screen time and email included.

Principle# 8: Your Body Keeps The Score

Your brain is a finely balanced network of chemistry and electricity. For it to be effective we must balance and support our physiological systems that keep our brain working, including exercise, sleep, medications, hydration, nutrition, a breathing practice, etc. (Gold & Shadlen, 2007; Philippot, Chapelle, & Blairy, 2002). The bottom line is that while you might convince yourself that you are special—that you don't need as much sleep, or water, or you can eat whatever you want and not exercise—you're not exempt. You are human, and your body keeps score (van der Kolk, 1994). If you are going to find ways to not only successfully navigate uncertainty, but do it in a sustainable manner, you will need to evaluate how you are supporting or hindering your brain.

> `Action:` Spend a week tracking your hydration, sleep, diet and exercise regime. Then review. Are your choices helping your brain, help you?

Principle #9: We Must Process The Residue

Residue is the substance that all experience and memories leave behind. It is neither good, nor bad and if processed well, becomes the building blocks of your character and personality. These memories, in turn, leave a residue within you, which if processed can serve as the fuel that moves us to wisdom and joy. If unprocessed, however, it will begin to build up, to harden, until you can no longer move or breathe, until all you know is pain and sorrow (Cline, 2020).

The one singular truth of all great teams is that great ones take time to process their experience, and bad ones do not. Commonly called After Action Reviews (AAR) (Ruiz, 2018), they are also referred to as a Hot Wash, Debrief, M&M, post mortem or post evolution meeting, etc. (Morrison & Meliza, 1999). In most cases, they are built around three questions: An Opening question: "What happened?"; a Guiding question: "Why did it happen?"; and a Closing question: "Now what?" To be successful, the AAR has to be imbedded in what ancient Greeks called "Parrhesia," or the courageous conversation (Foucault, 1999), that serves to help the team reveal each other's blind spots (Cline, 2017a; Luft & Ingham, 1961).

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Action: Once an Immersion Event is over, review it.  Either
individually with a journal or as a group with an After Action
Review.
```

Principle#10: Establish Your Own Principles

Lastly, in order to sustainably navigate uncertainty, we need to constantly be moving toward our potential. To do this, we each need to determine what that potential may be, which will allow us to build our own principles or checklists (Gawande, 2010; Useem, 2011). **While you read this paper, the world has changed—start building your principles today.**

Survey Link

https://corexmsdff4qgcml5by2.sjc1.qualtrics.com/jfe/form/SV_6DqQawEoNGb44pT

Survey Questions

1. What is your profession (military, academic, fire, researcher, etc.)?
2. What is one key principal you have for Navigating Uncertainty?
3. What is one action step you believe individuals could take right now to improve their ability to
4. What other advice would you give for those Navigating Uncertainty?

Updated Survey Results

https://corexmsdff4qgcml5by2.az1.qualtrics.com/reports/RC/public/Y29yZXhtc2RmZjRxZ2NtbDVieTl
tNWU5MzNmMGFkNWFjNGIwMDEwMjZiYTc4LVVSX1RqOE1zUlB0NXVzbHRWbg==

Review

Key Questions

- Question #1: Do You Feel A Responsibility To Keep Your Family, Or Your Team, Safe?
- Question #2: Can You Identify A Moment In Your Entire Life Where You Were Free And Secure From Danger, Harm, Injury And Risk?
- Question #3: Do You Embrace, Or Fear, Transition?
- Question #4: Will You Commit An Error, Or Make A Mistake, Today?
- Question #5: What Is Your Relationship With Adventure?
- Last Question: Are You Focusing On Your Objectives Or Your Potential Losses?

Principles and Actions

- Principle #1: Where You Look Is Where You Go
    - Action: Always start by naming your objectives, then take actions that move you toward those objectives.
- Principle #2: Fast Is Different Than Slow
    - Action: Ask yourself "Do I own the clock?" Meaning, Do I have time to be proactive, or must I react? You always have more time than you think.
- Principle #3: We Cannot Fix, What We Cannot Talk About.
    - Action: Ask yourself how you would want your children, or your subordinates, to recover from error. Then role model that behavior when you make errors.
- Principle #4: We Cannot Talk About What We Cannot See
    - Action: Identify the primary tasks associated with resolving an emergent problem set, and focus only on those tasks.
- Principle #5: We Must Spend More Time On Building Our Strengths Than Trying To Fix Our Weaknesses
    - Action: Take a moment to write down your core strengths, then determine how to strengthen them even further.
- Principle #6 We Need A Team
    - Action: Have you identified the members of your team? Do you know your team's strengths and weaknesses?
- Principle #7: We Must Moderate Our Consumption Of Information
    - Action: Create some guidelines for yourself on your information sources and your information consumption (screen time and email included).
- Principle# 8: Your Body Keeps The Score
    - Action: Spend a week tracking your hydration, sleep, diet and exercise regime. Then review. Are your choices helping your brain, help you?
- Principle #9: We Must Process The Residue
    - Action: Once an Immersion Event is over, review it. Either individually with a journal or as a group with an After Action Review.
- Principle#10: Establish Your Own Principles

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