Creative Capacity

A journey of knowing creative self, building creative confidence, and honing creative craft.

Quinn Davidson & Emily Krause

Creative Capacity A journey of knowing creative self, building creative confidence, and honing creative craft.

By Quinn Davidson & Emily Krause

Submitted to OCAD University in partial fulfillment of the requirements for the degree of Master of Design in Strategic Foresight and Innovation

Toronto, Ontario, Canada, 2020

Copyright

Abstract

How can practitioners develop greater creative capacity? This research project explores the stages that a creative practitioner moves through as they journey through the creative process and identifies some of the most powerful practices, principles, and mindsets that they can uphold in order to develop greater creative capacity. Our research findings are a result of a design-led inquiry and set of generative interviews with a diverse group of high-performing creative practitioners.

We describe the creative process through the narrative arc of Joseph Campbell's *The Hero's Journey*. We identify six common pitfalls that creative practitioners need to be mindful of as they journey through the unknown world and face unforeseen challenges and temptations. We describe how the practices of discipline and reflection create the conditions for creative practitioners to avoid these pitfalls and describe a set of six principles that act as a system of fail-safes to help creative practitioners navigate the precarious landscape of transformation.

We then look at creative capacity itself and describe the overarching mindset that allows creative practitioners to uphold these practices and principles. We present a model for creative capacity as a dynamic interaction between creative self, creative confidence, and creative craft and describe how practitioners can build greater creative capacity from successive journeys through the four stages of the Hero's Journey.

Acknowledgments

We are standing on the shoulders of giants. We would like to thank the amazing group of people that came together to make this project happen. This would not have been possible without your support, guidance and generosity. We will be forever grateful and hope that this project reflects your collective character.

Thank you to our Primary Advisor, Peter Jones for guiding us through this experience, for your thoughtful contributions and for pointing us in interesting directions in a way that gave us the space to explore.

Thank you to our Secondary Advisor, Bob Hambly. Your innate curiosity and attention to detail helped us sit in an idea for a while before moving forward. Your generosity and calming disposition helped us expand our thinking and inspired us to try to create something of value.

Thank you to Hilary Austen for building the foundation on which this project stands, and for providing continued guidance along the way. Thank you for putting up with our daft questions about the Knowledge System and the concepts in your book *Artistry Unleashed*. We are so grateful for your mentorship and support.

Thank you to our amazing group of collaborators. We interviewed such incredible people for this project and appreciate that you took time out of your day to share your experiences, thoughts, and knowledge.

A special thank you to Cindy Ly, our talented graphic designer. Your visual language helped us weave together our narrative in a way that words could not.

To our unmatched SFI cohort– thank you for being our safe space to question, learn, explore, and journey together over these past two years. This program was transformative for each of us and we would not be where we are today without you.

Thank you to our mentors. Roger Martin for putting me on this path and for changing the way I think. Thank you for showing me that it's really all about finding ways to unlock possibility. - Quinn

Kevin Morris for taking a chance on me and giving me the opportunity to learn alongside you. You stretched my thinking and created the conditions for growth. This work would not be what it is had I not been invited into your creative journey. - Emily

And to each of our spouses. Rob– thank you for your encouragement and support through this journey. You are forever the wind in my sails and the foundation under my feet. - Quinn

Jared– thank you for your patience, partnership, and support. You challenge me to think differently and give me the space to find myself. - Emily

Table of Contents

List of Figures

INTRODUCTION

01

Project Context

The adage that change is the only constant is arguably true now more than ever. The rate of change that our world is facing is rapidly increasing and the nature of change is becoming more complex. There are significant drivers of change that are converging, requiring that we harness and integrate our collective knowledge in new ways. This convergence is leading to an increasing number of global challenges that are cross-domain, and dynamic and shifting in nature. In her book *Artistry Unleashed*, Hilary Austen (2010) describes these challenges as “enigmatic problems”, that is, problems that change shape and are difficult to grasp and define– mysterious (p. 3).

The challenges that we face do not just require greater technological intervention; we need greater problem solving capabilities across all industries, sectors, governments, and cultures.

Problems are becoming more open, complex, and networked (Dorst, 2019). As problems become more dynamic, so does our access to information, tools, and gurus. Google gives you the world at your fingertips– returning countless results for searches of everything from how to change a tire, to understanding the nature of neural networks, to Plato and the philosophy of The Republic. But how do you make sense of it all?

Whether a designer, futurist, artist, or manager, the world needs more creative and effective problem solvers– those who have learned to hone their craft and integrate knowledge across systems. But how does one make sense of their own experiences in such a way to effectively navigate these lofty global challenges? What are the practices and principles that the creative practitioner might hold as they traverse rugged

terrain along their journey of creating, that is, through the creative process?

As creative practitioners ourselves, we concur with Dorst (2019) and others who posit that, “We have to radically shift our thinking and move away from design paradigms based on problem solving to create a new paradigm based on complexity theory and systems thinking” (p. 122). What we have discovered through our research and aspired to articulate here is an awareness of a new way of thinking that may help frame the foundation for a new paradigm for facing complexity and ambiguity with creative confidence (Kelley and Kelley, 2012).

The tools of the creative practitioner are often frameworks, models, methods and toolkits developed by others for making sense of information. Dr. Riel Miller, Head of Futures Literacy at UNESCO has described the importance of our relationship with our tools by saying that our conceptualization of tools needs to change because tools are us. He goes on to unpack how tools are an extension of us and we are an extension of them, making a valid connection to the role that tools play in knowledge development as creative practitioners develop their craft. If creatives have an understanding of how they build knowledge, informed by their own experiences, they are in a better position to match the problems they face with the resources available– just as a carpenter knows what tool to draw from his toolbox.

Miller speaks of a capability that creatives must develop in order to develop greater capacity (Florida, 2002) for making sense of the world. Sir Ken Robinson (2010) describes this as thinking of “human resources like natural resources: they’re often buried deep” (3:15). He details how there is a need to go looking for them because they are not obvious. In order to do this work, creative practitioners must create the circumstances where these resources can be discovered (Robinson, 2010).

Collaboration between individuals with diverse skill sets is widely recognized as a critical aspect of devising strategic interventions to address enigmatic problems. To have dynamic, collaborative teams, we need dynamic individuals. As author David Epstein (2019) writes in his book *Range*, “Individuals are capable of greater integration than teams are. An individual with experience in four areas is more likely to be innovative than a team with individuals with experiences in each of those areas” (p. 210). To this end, we have chosen to focus our research at the level of the individual rather than the team. We are interested in how individuals might build knowledge and more specifically, what practices and principles creative practitioners might hold in order to build greater creative capacity.

Before diving into our findings, it is important to discuss the frame with which we are discussing “creativity”. For the purposes of this work, we are taking a broad and inclusive definition of creativity whereby we acknowledge different expressions of making and creating in diverse forms and with different methods and mediums. Rather than creativity being a distinguishing feature between individuals, we believe that creativity is a distinct attribute of humankind that differentiates us from other entities (e.g. artificial intelligence, or intelligent beings such as primates) that might be able to learn but are not able to create “new” or derive meaning from elements in the way only humans can.

The more our world brings us into closer collaboration with intelligent machines, the more we will need to understand what we can (and must) contribute to a project in order to move towards more effective problem interventions for global challenges. Namely, we believe there is an imperative for humankind to build greater creative capacity and to lean into our unique ability to foster curiosity and make sense of complexity.

Moving from Mystery to Heuristic

As creative practitioners ourselves, we used Roger Martin's Knowledge Funnel (2009) as a helpful framework to conceptualize our research process. The Knowledge Funnel illustrates how knowledge moves from mystery, to heuristic, to algorithm (see Figure 1). Before information is understood, it is unknown– a mystery. We began our research process with a series of questions and curiosities about building creative capacity and the role that reflection might play. The boundaries of these questions were poorly defined and intentionally broad. Creative capacity was a mystery.

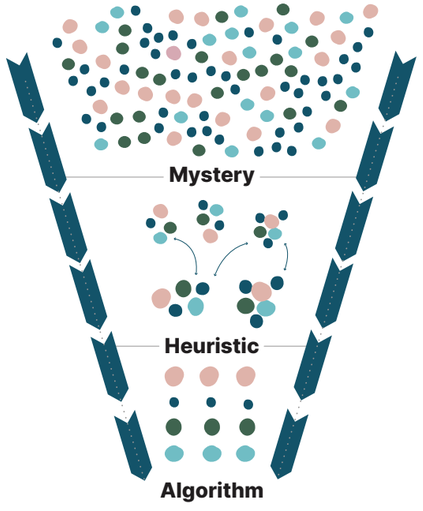

Figure 1: The Knowledge Funnel (Adapted from Martin, 2009)

Through our research process, we started to use helpful frameworks like Austen's Knowledge System (2010) to help us narrow down the field of inquiry and "work the mystery down to a manageable size" (Martin, 2009, p. 8). With this, we built a heuristic for how to think about creative capacity and the role of reflection. This helped us organize our thoughts and gave us a mental model to think about creative capacity that could help us understand it enough to do something productive with it.

Through an iterative process of inquiry, sensemaking, and testing, we developed a series of tools to better understand creative capacity, including a set of principles for creatives to follow. In this way, our heuristic started to look more like an algorithm– a simple, structured, code that anyone can access.

As we moved down the funnel from mystery, to heuristic, to algorithm, we removed information and streamlined our thinking to get to understanding. Jon Kolko (2010) describes this applying abductive thinking which "acts as a means of understanding the mystery and forming heuristics of ideas" (p. 28). This act of sensemaking can also be understood as design synthesis, the results of which are articulated throughout this report. We reference the Knowledge Funnel throughout the body of this work as it was helpful to our process and is a helpful tool in understanding how creative practitioners make meaning in their medium.

Methodology

Our methodology for this research was rooted in pragmatism which explores the interplay between cognition– learning by doing, and metacognition– understanding one's actions when learning by doing. We developed a mixed methods approach that drew on aspects of ethnography, participatory action, and design-led inquiry. Our rationale for this approach was to integrate the below facets of each:

- **Ethnographic research** to understand an individual's goals, values, and context;
- **Participatory action research** to understanding an individual's actions, processes, and practices;
- **Design-led inquiry** to apply insights gathered from our research to create a set of principles and working models for creative capacity.

At the outset of our research, we had a hypothesis that reflection had a critical role to play in building knowledge and increasing creative capacity. Once we started our interviews with creative practitioners, we found that when they talked about their reflective practice, they also talked about their creative practice. As a result, we refined our research question to look more specifically at how practitioners can build greater creative capacity.

Research Question

How can practitioners build greater creative capacity?

In order to answer this question, we designed a three-phase generative research approach:

1. Literature review
2. Practitioner interviews
3. Data analysis & synthesis

Through the literature review, we built a foundational knowledge base of the most compelling and well-tested theories across different fields of creative practice as well as an understanding of adjacent areas of thought that we could use to derive additional insights. This allowed us to develop a set of objectives and generative questions that then guided our interview-led research. After two rounds of practitioner interviews, we analyzed the resulting insights and synthesized a set of practices and principles for how creatives might develop greater creative capacity.

1. Literature Review

To begin our literature review, we identified prominent authors, speakers, and creatives who have contributed to the body of knowledge relevant to creative capacity, the creative process, and knowledge development. In alignment with our broad definition of creativity, we took a broad and inclusive definition of the creative process, namely: the process of making new connections between existing ideas or elements, resulting in the creation of something new, regardless of medium. Our interests at the outset of our research were to better understand how creatives might be more intentional in honing their craft as practitioners, and specifically, we were interested in the role that reflection might play in this process. We therefore used this as a type of criteria for identifying core and adjacent resources to include in our review.

As we conducted our literature review, we used methods of annotation and memoing to track the prominent contributions from each author and thought leader. In total, we reviewed more than 30 books, articles, talks, and other informative resources.

After our review, we applied principles of grounded theory to identify the emerging insights, patterns, and themes across the literature. We wrote down notable quotes and points of consideration on post-it notes and clustered them by themes. By visualizing the insights in one physical space, we were able to better understand their connections and the context within which our interviews could then be situated.

2. Practitioner Interviews

Using an espoused theory of creativity, we selected creative practitioners using our personal networks who have demonstrated a high degree of creativity in their chosen domain. Before conducting our interviews, we identified a set of objectives for the conversations that then guided the development of our interview scripts. The interviews we conducted followed a semi-structured format. Immediately after each interview, we debriefed together to identify what stood out to each of us and cross-reference our notes.
We conducted the interviews in two rounds with an initial analysis after the first round. In this initial analysis, we identified the patterns that were beginning to emerge from our interviews and used these themes to revise our interview questions. We identified a series of hypotheses and positioned these as questions that we then tested with the experts we interviewed in round two of our research.

Across both rounds, we conducted 15 interviews. Our interviewees represented esteemed authors, business leaders, decorated artists, and high performing creatives with expertise in disciplines spanning from strategy, design, music, and learning. Throughout the interviews, we discussed both their professional insights and expertise as reflected in their published work (when applicable) as well as their personal opinions, experiences, and learnings. Through this professional-personal approach we were able to uncover significant themes, insights, and patterns.

3. Data Analysis & Synthesis

Once the interviews were complete, we moved into the data analysis and synthesis phase of our research. Again, applying principles and methods from grounded theory and using the themes we had compiled through our initial memoing analysis of the interviews, we worked through a process of affinity clustering to more specifically identify the emerging insights from our research (Kolko, 2010). Once we identified the themes and patterns from the interviews, we cross-referenced this with findings from our literature review to deepen our understanding and the insights that we were drawing. This triangulation between the two rounds of interviews and our literature review allowed us to generate a rich set of insights that informed the models and conclusions described here. Doing this work together required that we get specific as to what we were each seeing and articulate the insights to one another. At times, our perspectives differed, which created the space for us to discuss further. Overall, our design-led research process allowed us to approach the broad topic of building creative capacity with a human-centred approach and to dig deep into some of the mysteries that lie below the surface of the renowned creative practices that our interviewees have built.

THE CREATIVE SELF

02

By nature of the types of challenges that creative practitioners tackle, namely, enigmatic problems that are situated in a dynamic and changing environment, the creative is required to constantly pay attention to change and make sense of ambiguity (Kolko, 2010). Broadly speaking, one of the critical skills required for such work is creative capacity. But what does this entail and how does one begin to develop this capacity?

In his book, *Obliquity* (2010), leading British economist John Kay argues that solutions for real-world, wicked problems can only really be developed and realized by taking an oblique approach. Kay defines obliquity as an indirect approach to problem solving whereby we must shift our focus between basic actions, intermediary goals and high level objectives. Only when we break down our lofty and complex objectives into intermediary goals and then further into smaller tasks, Kay argues, are we then able to effectively move towards achieving our ambitions.

This indirect approach to realizing large ambitions parallels the OKR framework developed by Andrew Grove (1983) and made popular by Google. Now used widely throughout the tech startup and innovation ecosystems as an effective method for achieving growth, the framework outlines the need for ambitious and inspiring Objectives (O) as well as measurable Key Results (KRs) that work to indicate whether the objective will be achieved.

Throughout our research, it became clear that developing greater creative capacity must be approached in much the same way – that is, indirectly or obliquely. Fortunately, just as Kay, Grove and others have developed frameworks for articulating and charting a course for such indirect approaches in business, Hilary Austen has done the same for conceptualizing the knowledge system that artists and creatives might adopt as a working mental model for honing their craft. In her book, *Artistry Unleashed* (2010), Austen describes how artistry "is an emergent capability that cannot be approached directly" (p. 46). Her Knowledge System consists of three types of knowledge that artists and creatives develop in order to pay attention to and manipulate the qualities of their experiences. This integrated system functions to facilitate learning in order to express greater artistry and creativity.

The Knowledge System

The three types of knowledge that Austen describes, and which informed much of our research are Directional Knowledge, Conceptual Knowledge, and Experiential Knowledge.

Directional Knowledge can be understood as the "highest order" type of knowledge and has to do with one's purpose, motivations, and sense of identity. For the creative, Directional Knowledge often underpins the context or environment in which they apply themselves and acts as a driving force for betterment and applying oneself.

Conceptual Knowledge includes the frameworks, mental models, theories and heuristics that creatives develop and use to make sense of their medium. Conceptual Knowledge is the organization of many experiences and is developed through a process of synthesis and pattern recognition whereby the creative develops a deeper sense of understanding.

Experiential Knowledge has to do with the skills, methods, techniques, and awareness that are required for any type of creative endeavour. This knowledge can be understood as a tacit knowledge that is developed from paying attention to the qualities of our experiences.

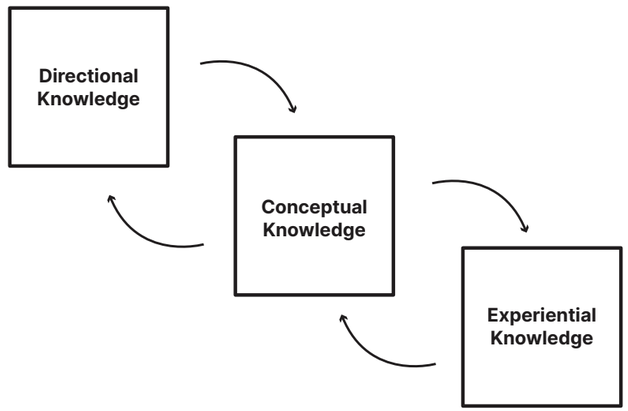

Figure 2: Austen's Knowledge System (Adapted from Austen, 2010)

Austen highlights the opportunity that creatives have to more intentionally develop their craft once they understand these three types of knowledge and how they all work together as an integrated system. She describes how "alignment of these three categories produces the unity of awareness and action that make artistry possible" (2010, p. 55). Understanding the ways that Directional, Conceptual, and Experiential Knowledge reinforce one another offers further insight into how creatives can learn and develop creative capacity.

The arrows depicted in the Knowledge System (Figure 2) denote the dynamic nature of the system and portray how Directional, Conceptual, and Experiential Knowledge fit together. Looking downstream, the arrows show how Directional Knowledge can guide Conceptual Knowledge which in turn guides Experiential Knowledge. Looking upstream, beginning with Experiential Knowledge and following the arrow up, we can see that Experiential Knowledge informs Conceptual Knowledge which in turn informs Directional Knowledge. In her model, Austen identifies this flow in the system as two interconnected learning loops (Figure 3).

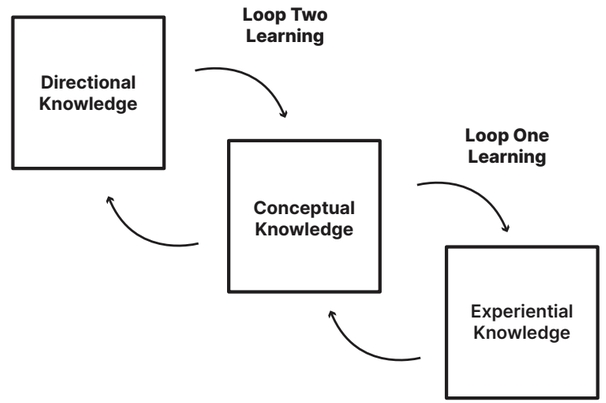

Figure 3: Loop One and Loop Two Learning (Adapted from Austen, 2010)

The first loop occurs between Conceptual and Experiential Knowledge (Loop One Learning, see Figure 3) while the second loop occurs between Conceptual and Directional Knowledge (Loop Two Learning). The cycles of Loop Two Learning tend to be slower as changes in Directional Knowledge take more time and must be informed by a significant mass of Conceptual Knowledge. Loop One Learning was important for our research and guided much of our thinking in terms of understanding how practitioners learn from their experiences to develop greater creative capacity.

The critical activity that catalyzes the upstream learning of Loop One is reflection. Specifically, as creatives reflect on the different skills, methods, techniques, and even awareness that they applied throughout a particular project (and more so over the course of a series of projects), they can begin to make sense of the common elements of the experience and identify the patterns therein. This act of sensemaking allows the creative to recognize different mental models within their work and possibly identify or devise emergent frameworks. That is, as we reflect on our Experiential Knowledge and question, grapple with, and make sense of the qualities of our experiences, we are able to abstract from the details of the experiences and identify patterns and surprises. These patterns help inform hypotheses for new models, frameworks, or methods– the essence of building Conceptual Knowledge.

Following from the process of reflection and the development of Conceptual Knowledge, creatives can then apply their newly formed or revised mental models, frameworks, theories, and heuristics to guide their next experience or creative project. There is often a process of testing involved in this process as the creative practitioner tests the fit and applicability of new knowledge. What works? In what ways? In what environments? What needs to be true for the new model to be useful? This testing completes the learning loop, bringing creatives back to the experience at hand where the testing occurs. In this way, Conceptual Knowledge guides the development of Experiential Knowledge, pointing creatives in the direction of how to apply their skills and where to point their awareness. From there the loop reactivates, again catalyzed by reflecting on the qualities of the experience.

On Mastery and Originality

A defining characteristic of creative practitioners is the way they learn in perpetuity. By nature of the challenges that creatives tackle, they are required to draw on and apply their Experiential, Conceptual, and Directional Knowledge in new ways for the context at hand. For Austen, this is the heart of artistry: the ability to hold space for both mastering the skills of their craft and also embracing times of originality where they innovate, improvise, and respond with flexibility to the context they are faced with.

Austen describes the tension that artists must navigate between mastery and originality. In mastery, creatives learn, practice, and apply the insights and methods from the collective body of knowledge and best practices of the industry. In the Knowledge System, this is the downstream learning of both Loop One and Two (see Figure 3). When creatives reflect on their experiences and the qualities of their interactions, insights, and skills, they activate Loop One Learning and the upstream interaction between Experiential and Conceptual Knowledge. This can also be understood as creatives demonstrating originality as they are creating new knowledge. In sum, "achieving mastery means learning to apply developed knowledge; achieving originality means learning to generate new knowledge" (Austen, 2010, p. 108). Both are imperative for the creative practitioner, but knowing when to lean into each is a skill learned through experience.

Creative DNA

Austen's Knowledge System has parallels with a number of other frameworks that describe how an individual may grasp and build knowledge including Martin's Knowledge Funnel which guided much of our research process (see Introduction). It is also useful for creatives to understand how they approach their own learning and development. By shifting our lens and looking at the system as a whole, we can see the importance of understanding the very nature of who we are as creative practitioners. Twyla Tharp (2006), the legendary dancer and choreographer, describes this as Creative DNA. She writes:

> I believe that we all have strands of creative code hard-wired into our imaginations. These strands are as solidly imprinted in us as the genetic code that determines our height and eye colour, except they govern our creative impulses. This determines the forms we work in, the stories we tell, and how we tell them. (p. 37)

Tharp's description of the creative self aligns with and deepens the definition of creativity that we have held throughout our research. Indeed, this is not a new concept. Hippocrates in 460BC identified four distinct "humours" that shape human character and influence our behaviour (Kalachanis & Michailidis, 2015). Today, there are helpful tools like Myers-Briggs and the Basadur Profile, that try to capture and codify the essence of who we are, or as Tharp would say, our creative DNA.

The importance of understanding one's unique creative DNA also emerged repeatedly throughout our interviews. We heard a variety of perspectives that shared a common understanding of how they develop their craft, yet each individual had a unique slant on how to go about conducting themselves in their given domain. Some wanted to get their ideas into the world as soon as possible, while others needed to percolate on a concept before sharing. Still others focused on self-expression as the driver that informed their decisions.

In our interview with Dan Coyle, author of *The Talent Code* (2009) and *The Culture Code* (2018), he described learning as understanding the mental models we hold. He described how we inherit particular models for understanding the world around us as a result of the experiences we have when we are young, and

the people who are part of those formative experiences. Learning then, serves as a way to question, test, and refine these mental models. Coyle's upbringing illustrates his point and begins to explain how his Directional Knowledge shaped his own creative DNA:

I suspect my [creative] DNA was formed when I was young. My dad was a radiologist so he would always have all these x-rays in his office and we would stick them up against the lights and look at the bones. So this idea that there's something underneath the surface that's making stuff happen, there's a thing there, that's always driven me– mystery solving and mystery explaining. — Coyle, personal communication, October 29, 2020.

Using the Knowledge System as an abstraction of self, we can understand how our creative DNA can change the shape of the system. One might focus on Directional Knowledge, and an ever-present "magnetic pull" (Austen, 2010, p. 77) towards a deep sense of purpose in the world, while others have a propensity to immerse themselves in experiences, seeking out as many new and diverse opportunities as possible.

By developing a greater understanding of one's own creative DNA and Knowledge System, creative practitioners can begin to understand how they process experiences and how experiences impact their learning and development. Tharp (2006) explains that "once we begin to understand the strands of our creative DNA we can begin to see how they mutate into common threads in your work" (p. 44). Thus, we can see that understanding creative self is foundational to building creative confidence and honing one's craft.

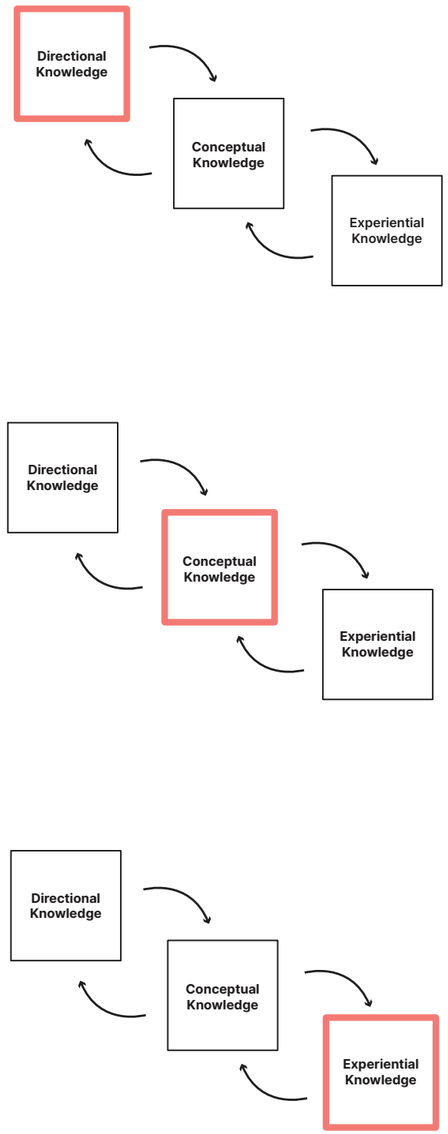

Figure 4: The Knowledge System influenced by Creative DNA (Adapted from Austen, 2010)

CREATIVES ON JOURNEY

03

If looking at a Western model of education, one might conclude that learning is a linear process, similar to the line of equality in economics (Kotz et al, 1997), where skill level is directly correlated to the amount of time invested (see Figure 5). From this model, where the relationship is linear, it might seem like learning is straightforward and that skills are mastered simply with enough time, effort, and help along the way. Western education models reinforce this worldview through the assembly line approach where the student steps on the steady, forward moving conveyor belt. As the belt moves, the student is given tools and lessons to progress to the next level or grade, with the end goal of graduating from a post-secondary educational institution. In his 2010 Ted Talk, Sir Ken Robinson outlines how we have become obsessed with this idea of linearity, despite the fact that high achievers rarely describe their experience this way. He argues that this linear approach is ruining how we learn as a society and is leading us towards a crisis of human resources (Robinson, 2010).

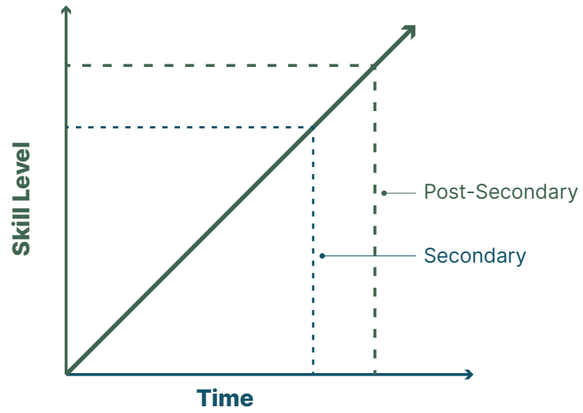

Figure 5: Linear relationship between skill level and time in Western education (Adapted from Kotz et al, 1997)

Throughout our research, those that we interviewed reflected on their own careers in much the same way that Sir Ken Robinson (2010) describes that of other high achievers, namely a series of non-linearly placed steps that only in hindsight resemble a path. Those we interviewed described both personal and professional experiences that worked together to shape and reshape their creative identities and ultimately build their creative capacity. Looking across their stories, there were four commonalities that emerged:

- They had influences early in their career that shaped their creative DNA
- They described their development as a series of trial and error
- They had a well-formed understanding of self
- They talked about how they continuously carry learnings forward into future projects

As we listened to the varied stories of the creative practitioners that we interviewed, it became clear that the arc of their journeys closely resembled the stages of the Hero's Journey, first described by Joseph Campbell in his book *The Hero with a Thousand Faces* (1949). The Hero's Journey is a popular literary tool that demonstrates the experience and triumphs of an individual. It involves a hero who goes on an adventure, learns something, wins a victory with their newfound knowledge, and then returns home transformed (Campbell, 1949). Using Campbell's monomyth, we came to understand the personal development of creative practitioners as a quest with four acts:

ACT I - Call to Adventure: The desire to learn something new.
ACT II - Challenges and Temptations: The hurdles and struggles involved in growth.
ACT III - Transformation: Making experiential knowledge tacit.
ACT IV - Return: Applying learning to new experiences.

We see the Hero's Journey in many Hollywood blockbuster movies. In Star Wars, Luke Skywalker leaves Tatooine, rescues Princess Leia, learns to use the Force to take down the Death Star (while losing his hand), and then joins the Rebellion and sets off to become a Jedi. Similar adventures take place for Bilbo Baggins in The Hobbit, and Moana in Pixar's Moana. We can also see tenets of the Hero's Journey in courageous figures throughout history. For example, both Mahatma Gandhi, and more recently Ruth Bader Ginsburg, AKA The Notorious RBG, had experiences as young lawyers that would shape their approach to civil activism. By looking at the arc of the creative process as a practitioner moving through the four stages of the Hero's Journey, we can begin to understand how creative practitioners can build greater creative capacity.

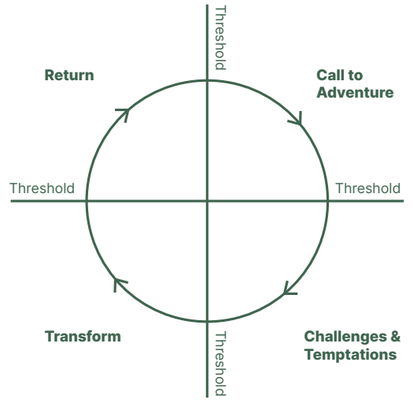

Figure 6: The Creative (Hero's) Journey (Adapted from common representation of Campbell, 1949)

The Creative (Hero's) Journey

ACT I - Call to Adventure

The first stage of the creative hero's journey is described as the call to adventure. It has two characterizing aspects. First, is the desire to redefine our identity, and secondly, the invitation into the unknown. For the creative, the sense of identity is what we described in Chapter 1 as creative DNA. Dan Coyle describes this call to adventure as ignition, a mysterious burst, or awakening. He writes that: "Ignition is the set of signals and subconscious forces that create our identity; the moments that lead us to say *'that is who I want to be'*" (Coyle, 2009, p. 101).

This call to adventure is the commitment to leave the comforts of the known world and venture into mystery. In business terms, this is the choice to invest in improving future returns and exploring new competencies rather than solely focusing on improving present returns and exploiting existing abilities. In other words, choosing to develop new skills over reaping the benefits of the skills you have already developed that now feel automatic and come easily to you (March, 1991).

For the creative, this can be understood as embarking on a new project or creative endeavour. Austen describes how this stage requires an abandonment of what one has mastered (that is, the known world) in order to gain new and original insights from an unknown world. This is the interplay between mastery and originality described in Chapter 1 where the creative must abandon what they have mastered in order to learn and apply themselves in new ways (Austen, 2010).

A defining feature of moving into this newness is the willingness to embrace the unknown. James March argues that in order to do this, we must have some level of naivety about what may lie ahead because if we knew all that we would experience, we might not venture out at all. In his article *Rationality, Foolishness and Adaptive Intelligence* (2006), March argues that rationality needs to be balanced with other approaches in order to set actions free from the constraints of conventional knowledge. He introduces the notion that embracing foolishness is critically important when exploring the unknown world (March, 2006). In this way, we can see that although the creative must have a sense of self before responding to the call to adventure, there is also an (unconscious) understanding that there will be much discovered along the way.

ACT II - Challenges and Temptations

The second stage along the creative hero's journey is characterized by encountering challenges and temptations. This stage of the journey has been described and visualized in many different disciplines, perhaps most famously by Cornell University psychologists David Dunning and Justin Kruger. They describe how beginners in a new domain tend to overestimate their initial ability because they are unable to recognize their own incompetence (Dunning & Kruger, 1999). Just like the hero first embarking on their journey, they are unaware of what lies ahead and the struggles they are about to endure and eagerly rush into the new experience with great confidence that they will succeed. The Dunning-Kruger Effect has most commonly been visualized in a line graph that shows the initial peak in confidence followed by a valley as the beginner realizes that they have overestimated their ability and that what lies ahead is more challenging than they first anticipated (see Figure 7).

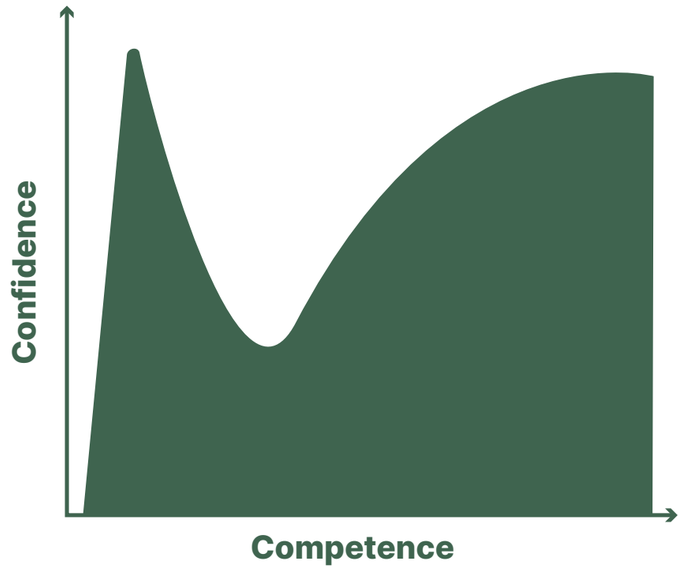

Figure 7: The Dunning-Kruger Effect (Adapted from common representation)

Austen describes how the frustration that novices experience can often manifest as asking the wrong questions, or asking the right questions at the wrong time (Austen, 2010). For any creative practitioner who has ventured into the unknown world, this description may bring about visceral memories of how this awkward space of the unfamiliar feels– often because it is demarcated by experiences of failure.

One example of this is found in the TV Series *The Great*, a comedy about the life of Catherine the Great, the Russian Empress who ruled from 1762 to 1796. In one scene, Catherine's lover is trying to comfort her after a spectacular failure at trying to appear Empressorial. He says:

> We're always not quite as good as we wish, as capable, as bright. It is the human way to fall short of ourselves, for our thoughts can be untouched by hard reality whereas our bodies and souls must bump against the world, and the world will even up the equation over who we are. (Shakman & Chessell, 2020, Season 1, Episode 6)

When novices "bump up against the world", it forces them to come face-to-face with their expectations. When this happens, they begin to question their own abilities, increasing the opportunity for their emotions to take over, bringing on feelings of doubt, fear, and anxiety. Author and entrepreneur, Seth Godin, describes a similar effect in his book *The Dip* (2007), that explains the connection between effort and results. He says:

> Almost everything in life worth doing is controlled by the Dip. At the beginning, when you first start something, it's fun... it's interesting, and you get plenty of good feedback from the people around you. Over the next few days and weeks, the rapid learning you experience keeps you going. Whatever your new thing is, it's easy to stay engaged in it. And then the Dip happens. The Dip is the long slog between starting and mastery. (p. 17)

Although seemingly a paradox, Godin wisely describes how journeying through the long slog– the bumping up and the challenges and temptations, is actually a shortcut and the most effective way to get to where you want to go. The dip, as Godin describes it, is no doubt the hardest part of the journey considering the challenges, frustrations, failures, unmet expectations, and overall difficulties that the hero, or in our case, the creative must face. Yet the hidden opportunity lies in the nature of the difficulties themselves. If these challenges did not push the creative to the edge of their abilities then there would be nothing new learned, developed, acquired, or created. This can be understood as a need for "desirable difficulty"– difficulties that support learning, enhance comprehension, and overall lead to greater development (Bjork & Kroll, 2015). And yet, if challenges are perceived to be too difficult, emotions can take over and cause the creative to give up.

One's ability to move through the dip is a defining characteristic of renowned artists, world class thinkers, and innovative companies. The fact that it is difficult to embrace the challenges and temptations of the dip results in a scarcity, which

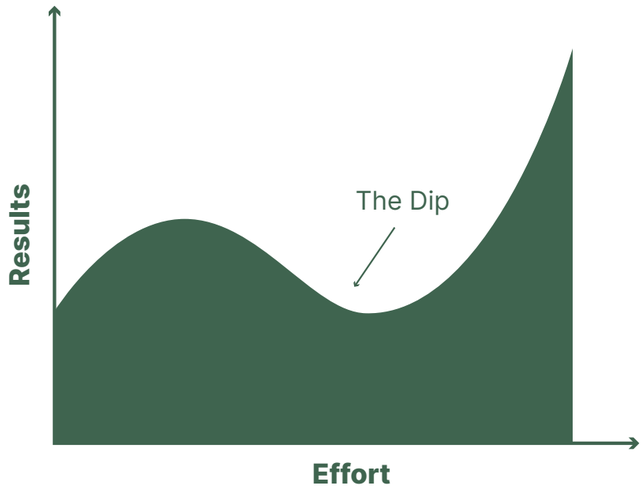

Figure 8: The Dip (Adapted from Godin, 2007)

is precisely why it is so important and valuable to journey through (Godin, 2007). We will take a closer look at some of the pitfalls that creatives typically encounter in the dip in Chapter 3 as well as some of the principles that emerged from our research that creatives can uphold to help move through the dip. Taken together, these start to characterize creatives who push through the darker hours of the journey and emerge transformed, ready to return home with new wisdom.

ACT III - Transformation

The third stage of the creative's journey is marked by transformation. Transformation is the result of remaining steadfast through the challenges and temptations of the dip. It is in this stage where there is finally a realization that yes, there was sufficient and desirable difficulty resulting in the discovery of new approaches, methods, and perspectives.

Transformation is the stage at which the creative begins to realize how their knowledge, skills, and confidence have grown, often the result of successfully doing something new. In our interview with Canadian hip-hop artist Shad he described this stage as getting necessary feedback from an external source.

> I wish that getting some wins didn't matter, I wish it didn't matter, but it does. In order to be confident, you have to get something back from what you're pouring yourself into. Whether that's big markers of success or just a couple of great relationships with your bandmates, or conversations with people who see what I'm doing and are affected by it. I know that if you don't get anything back it doesn't work. I guess it comes down to getting some sort of reflection of the best parts of yourself back to you. It just needs to happen. If you don't get that reflection back, you just can't produce it in yourself, it has to come from an external source at some point. — Kabango, personal communication, October 27, 2020

It is through this "reflection of the best parts of yourself back to you," that the creative can begin to realize their own transformation. Without this reflection, it is not possible to see how you have changed. This reflection might come in the form of positive feedback, affirmation, recognition, or another type of acknowledgement that confirms that, yes, this is working.

ACT IV - Return

The final stage of the creative hero's journey is the return home. In this stage, the creative completes their journey by returning to the place of their origin. Notably, they are not the same person as they were when they left and are returning with new knowledge, perspectives, and abilities that together allow them to understand and work in the world in new ways. This might look like taking a new approach to a familiar problem space, framing a problem with a new perspective, or being able to apply new skills to manipulate the qualities of their medium. In our interview with Shad, he explained his experience of the return home in this way:

> For me, and I think for most artists, you are sort of chasing your influences. Saying, I just want to make something that makes people feel the way this stuff made me feel. Then, I would say seven or eight years ago, that motivation changed and I wanted to explore, I wanted to make stuff that might not even be that great, but I want to grow, so let me try this, let me try that. Now, I've come back to this place where I just really want to make something for my audience, something familiar, something really in my strike zone. But I've gotten back here in an honest way. It's a way of doing it that feels honest versus trying to make something I think people want to hear. — Kabango, personal communication, October 27, 2020

Shad describes his return home as his ability to bring all of the newness that he gathered from his explorations back into a familiar place where he is able to make something accessible and yet fresh for those that look to him for inspiration. Jay Hennessey, Vice-President of Learning and Development for the Cleveland Indians and former Commander of the Naval Special Warfare Center, described this feeling of transformation and return by saying "It was the place where I got to take my rank off" (personal communication, November 17, 2020). In this way, Hennessey articulated the feeling of home as the place where he no longer needs the external recognition that is so critical in the Transformation stage, as he is now confident in his new abilities and how they have shaped him.

The critical and often overlooked aspect of The Hero's Journey is that rather than ending with the hero content at home, the hero again hears the call to adventure and responds by venturing out into another unknown world. We can see this narrative reflected in the classic story of Luke Skywalker who, once transformed, knows there is more to be experienced out in unknown worlds. In the same way, once creatives complete a journey and return home transformed, it is only a matter of time until they again heed the beck and call of adventure and set out with renewed fortitude to face the dip. Indeed, each time the creative faces the dip they become more familiar with the possible pitfalls, and are able to develop greater ability to push through the challenges.

Even though transformation is articulated as a stage in the journey, there is no guarantee that all creatives will have the same (or any) transformation and return. Through our research we identified some of the common pitfalls that practitioners might face in the dip that can compromise their transformation. We will explore these in the next chapter.

PITFALLS IN THE DIP

04

Facing the challenges and temptations of the dip is hard work and why Godin talks about the scarcity that the dip creates. Creative practitioners must be wary of pitfalls that not only present barriers to moving through the dip, but can also threaten the impact of personal transformation.

In this chapter, we will explore some of the common pitfalls that creative practitioners might encounter on their journey and consider each through the lens of Austen's Knowledge System so as to understand where learning and knowledge development can commonly break down. As discussed in Chapter 1, the Knowledge System depends on a series of learning loops that fit together to integrate knowledge between Experiential, Conceptual, and Directional components. As we will see, the upstream and downstream segments of these learning loops can be threatened by different pitfalls.

The pitfalls described here are the result of our research and analysis and represent some of the most common challenges that creative practitioners can encounter in the dip. More often than not, the creative will face many of these challenges in any one journey although some pitfalls tend to threaten some practitioners more than others. As you read through each, take note of when or how you may have experienced these in your own practice.

1. **Frameworks Fail:** The danger of relying too heavily on the theory of a framework without understanding how to apply it effectively to the context at hand.

2. **A Clean Slate:** Believing that previous experiences are not relevant to the present challenge, and that a "clean slate" will allow one to better absorb a new experience.
3. **Data as Reality:** The danger of relying on available data to tell the whole story rather than engaging directly with the source.
4. **The Blame Game:** The temptation to only see faults in others and the environment, rather than recognizing one's own need to improve.
5. **Nailed It:** Getting fixated on a specific mental model and viewing all creative challenges through this specific and narrow lens.
6. **I Do, Therefore I Am:** The temptation to mistake the activities of a creative process for personal characteristics.

1. Frameworks Fail

The Frameworks Fail pitfall refers to the danger of relying too heavily on the theory of a framework without understanding how to apply it effectively to the context at hand. The proliferation of frameworks especially within creative fields adjacent to design thinking, business strategy, and any type of innovation work, show how experienced practitioners have made sense of mystery and developed a tool to help navigate a particular aspect of their domain. There is no doubt that such tools are helpful. The pitfall comes when frameworks start to become a crutch, leaned on without consideration for whether it is actually the right tool for the job.

Those that fall for this temptation may not always return to the same framework, but what is consistent is the lack of skill used when applying it. This pitfall is most often a trap for those looking for something to rely on in place of their experience, knowledge, or confidence.

Looking at this pitfall through the lens of the Knowledge System, we can see that it is the result of a break in the downstream arrow of Loop One Learning where the practitioner is not able to effectively translate their Conceptual Knowledge (the framework) into Experiential Knowledge (the specific problem at hand).

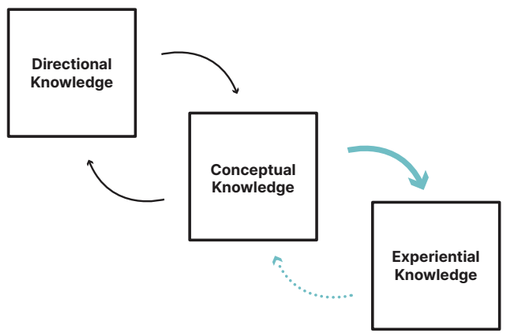

Figure 9: Frameworks Fail pitfall (Author's, based on work from Austen, 2010)

2. A Clean Slate

The second common pitfall is the danger of believing that previous experiences are not relevant to the present challenge, and that a "clean slate" approach will allow one to most effectively absorb all that the new experience has to offer. This pitfall discounts the creative's unique point of view– the very same point of view shaped by valuable previous experiences. Attempting to become a clean slate prevents the creative from drawing on insights and knowledge from their past experiences and applying it in new ways to the present context.

David Epstein (2019) argues that people who embrace diverse experiences and learn to integrate knowledge from many different domains are actually the most skilled problem solvers. He writes: "Big innovation most often happens when an outsider who may be far away from the surface of the problem reframes the problem in a way that unlocks the solution" (p. 178). The clean slate pitfall works to tie the hands of a practitioner as it prevents them from considering one of their most high potential sources of inspiration, namely their own experiences.

Looking at the Knowledge System, we can see that this pitfall manifests as a break in the upstream learning that happens in both Loop One and Loop Two. As a result, this slows the practitioner's integration of knowledge from their experiences and delays their path to mastery.

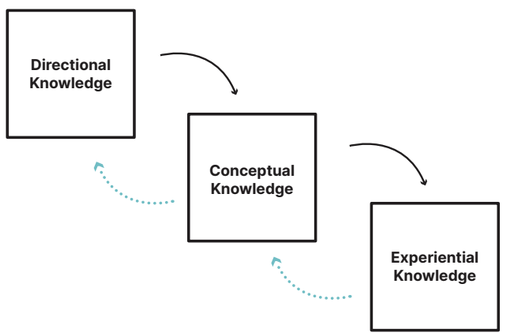

Figure 10: A Clean Slate pitfall (Author's, based on work from Austen, 2010)

3. Data as Reality

This pitfall describes the danger of only relying on available data to tell the whole story rather than engaging directly with the source of the data. To borrow an example from the business world, this is what happens when aggregate data is used as a full and sufficient proxy for consumer behaviour, instead of talking directly with customers. While data can be a powerful tool, it is only an abstraction of the real world and often does not tell the whole story. When working with data, it is important to remember that it is merely a proxy for what it represents and thus has the power to be deceiving (Christensen, 2015).

The more a practitioner relies on an abstraction of reality (data), the more they risk missing important insights and considerations for a meaningful solution or intervention. By looking under the surface for what is unseen, there is an opportunity to gain a more full understanding of the problem (Inayatullah, 1998). This pitfall is dangerous because it can result in a practitioner drawing the wrong conclusions because they are working with an incomplete set of information.

Understanding this pitfall in the context of the Knowledge System, we can imagine that there is a self-imposed filter over Experiential Knowledge that causes a creative to only see the data that is presented without probing into what lies below the surface. As a result, the creative misses the qualities of the medium that might allow them to develop important insights.

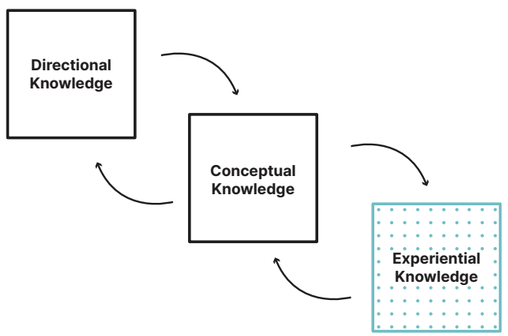

Figure 11: Data as Reality pitfall (Author's, based on work from Austen, 2010)

4. The Blame Game

The Blame Game refers to the pitfall that causes practitioners to only see faults in others and their environment, rather than recognizing their own need to improve. Although it is not wrong to recognize the external challenges that one may have been up against, without looking inward to question why and how a particular approach was applied, the practitioner runs the risk of remaining trapped in their own pre-existing reasoning and knowledge and falling into "defensive reasoning" (Argyris, 1991).

The Blame Game pitfall is thus the temptation to find a scapegoat that can easily be pinned with the fault of the failure and seemingly removes the requirement for the practitioner to reflect on their personal areas for improvement. The danger with this pitfall comes when the practitioner begins to rationalize their misguided choices and defend each of their actions instead of looking at what might have resulted had they taken a different approach.

Looking at the Knowledge System, the Blame Game pitfall manifests as a break in upstream learning from Experiential Knowledge to Conceptual Knowledge. Because the creative lacks the reflective discipline and introspection necessary to learn from their experiences, their Conceptual Knowledge becomes fixed instead of remaining fluid.

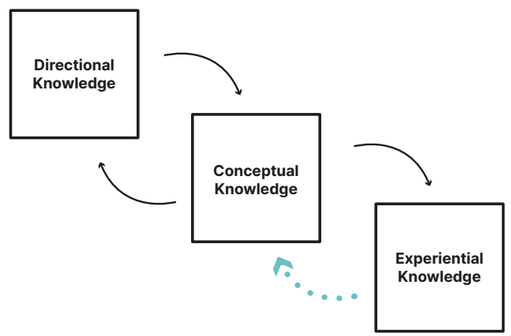

Figure 12: The Blame Game pitfall (Author's, based on work from Austen, 2010)

5. Nailed It

This pitfall describes the danger that lies in getting fixated on a specific mental model. Practitioners who succumb to this tend to view all creative challenges through this specific and narrow lens. Psychologist Philip Tetlock (2005) describes individuals with this cognitive entrenchment as Hedgehogs– namely, practitioners who adopt one big idea and then narrowly focus on building this particular idea throughout their work. Tetlock contrasts this with Foxes, practitioners who are able to hold and work with many different ideas and approaches. Because of the hedgehog's fixation on their one big idea, they continuously look for information that confirms what they hold to be true and tend to discount any information that might suggest otherwise. Taken to the extreme, this fixation can quickly turn into superstition– a mental model that is non-falsifiable, making it completely self-sealing (Martin, personal communication, November 24, 2020).

The danger with this pitfall is that, just like the law of the instrument dictates, the practitioner falls prey to confirmation bias and mistakenly believes that because they are holding a hammer, every problem must be a nail (Maslow, 1966).

Through the lens of the Knowledge System, Nailed It can be seen as a pitfall that causes the creative practitioner to only select the knowledge and insights from an experience that reinforce their one big idea, held either within Conceptual or Directional Knowledge. The pitfall results in strong downstream flow from Directional and Conceptual Knowledge, with very little or fragmented upstream flow from Experiential Knowledge.

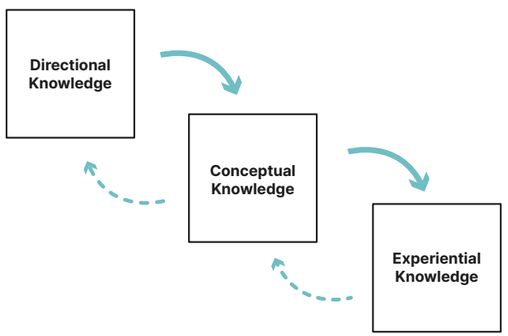

Figure 13: Nailed It pitfall (Author's, based on work from Austen, 2010)

6. I Do, Therefore I Am

I Do, Therefore I Am is the temptation for a practitioner to mistake what they do for who they are. It can be tempting for a creative to believe that because they are able to move through the motions, this must mean that they fully embody the qualities of these activities.

An example of this pitfall can be seen with some creatives who approach design thinking as a strictly linear process. The first stage of design thinking is often described as "Empathize" and posits that the designer must develop empathy for their end-user. There are various tools available to help designers tap into empathy but the risk comes in relying too heavily on the step-by-step of these methods and missing what it really means to empathize with someone. What is more dangerous, and what really characterizes this pitfall, is the tendency to think that because the designer can work through the activities of the Empathize phase, they are an empathetic person.

Positioned within the Knowledge System, this pitfall presents as a break in the upstream connection between Conceptual and Directional Knowledge because it gives a creative practitioner the illusion that they already possess certain capabilities when in fact they are just going through the motions.

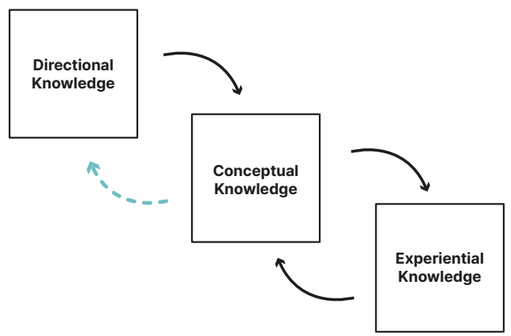

Figure 14: I Do, Therefore I Am pitfall (Author's, based on work from Austen, 2010)

Looking across all of these common pitfalls, we can see that they are not just dangerous because of the barriers that they present to a practitioner as they move through the dip, but because they can give the creative the illusion that they are well on their way through the Challenges & Temptations phase and moving successfully into Transformation. In this way, pitfalls can be seen as a shortcut that cuts off the full work of transformation for the creative practitioner (see Figure 15).

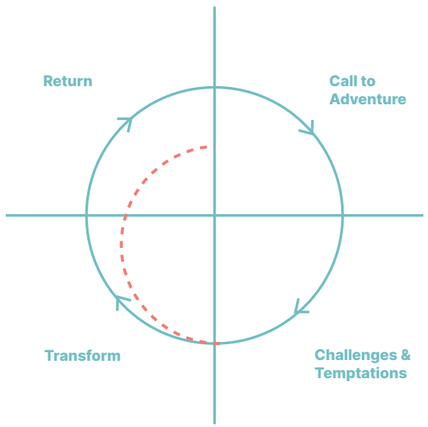

Figure 15: Truncated transformation (Author's, based on work from Campbell, 1949)

Bob Hambly, former Creative Director of Toronto-based design studio, Hambly & Woolley, compares the pitfalls to watch-outs in downhill skiing. The universal rule in skiing is to keep your weight in your toes. This allows you to have more control over your skis, have a better feel for the snow underneath, and be in an active position to manipulate your skis when turning. It is also well known in skiing that when it gets tricky, when you might be going too fast, hit a patch of ice, or another skier cuts in front of you, your natural reaction is to pull back and shift your weight from your toes to your heels. This natural reaction to shift your weight immediately changes your stance. It reduces your ability to manipulate the skis and causes you to lose the feel of the snow, in turn forcing your legs to work harder in order to avoid a wipeout (Bob Hambly, personal communication, November 3, 2020). Just like in skiing, when the creative faces the dip, they must remain committed to leaning forward, even when their emotions may be saying to pull back.

Figure 16: A skier leaning into their toes (Illustration by Meagan Durlack, Used with permission from Groomy Lifestyle)

This ability to push through the dip takes determination and discipline. In Chapter 4 we will discuss some of the practices that creatives can develop to help move through the dip without succumbing to the pitfalls that can threaten and shortchange their transformation.

PRACTICES FOR CREATIVES ON JOURNEY

05

As we now know, creative work is fraught with numerous possible pitfalls. And yet, through our research, a series of practices emerged as being steadfast in helping creative practitioners move through the dip, experience transformation, and as a result, build greater creative capacity. What we found is that moving through the dip and avoiding these pitfalls requires creatives to foster discipline, cultivate greater awareness, and create space for reflection.

On Discipline

Discipline was a common characteristic between all of the high-performing creative practitioners that we interviewed. They described their commitment to their craft in a way that portrayed how seriously they took it and had rituals that reinforced this commitment. Strategist and former Dean of the Rotman School of Management, Roger Martin, describes it this way:

> My mentor Chris Argyris pounded this into my head, he said 'All action is designed', so you can't say, 'oops, I just got caught up and things didn't get done'. He would say bullshit. It didn't just happen, that was your design, you designed it for that outcome. You did that for some reason, and just own it. So after meeting Chris, I wanted to be conscious of my own design.
> — Martin, personal communication, November 24, 2020

Designing one's actions is different from controlling one's actions. Designing actions has to do with creating the conditions for success. From our research this includes setting a high standard for execution (not necessarily for outcome), sticking to routines, being accountable to others, and meeting the deadline set.

Tom Scott, entrepreneur and founder of the Nantucket Project, describes his design as putting someone else in charge. He has a canvas tote that contains all of the tools he needs for his daily rituals. Scott carries this tote with him everywhere he goes, which is his way

of creating the conditions he needs to succeed. This system prevents him from making excuses. He describes it this way:

> This bag contains everything I need to be healthy. I have a Kindle in here– I like to do daily readings so I can do that anytime. I have stamped envelopes with my return address. Each envelope has a card, which means I can write a letter at any second and there's no excuse. If I meet someone and want to thank them, my only excuse is that I don't know their address, and that's not that hard to get. It will take me literally three minutes tops to execute writing someone a letter, but if I don't have paper, stamps, or an envelope, I'm not going to do it. — Scott, personal communication, October 21, 2020

Scott also has a journal that he writes in every day. The journal has a page for each day of the year, all pre-dated. This is important because it allows him to hold the threat of a blank page to keep him accountable for his actions. He says:

> All this stuff sounds corny but if you actually want to do something, you gotta put yourself in a position to do these things. I swear to you, once I had this bag there were fewer excuses. I found that order and balance comes through these little tools, that and from the reading I do and the experiences I have. The combination of these things has been really powerful. — Scott, personal communication, October 21, 2020

Our research was consistent with how Godin describes a successful person's approach to the dip. He says that successful people do not just ride out the dip, they lean into it, because they know it is the best way to get through it (Godin, 2007). Our conversation with Roger Martin echoed this:

> The only reason I've gotten as far as I have in the various aspects of my life is just gutting it out. I think in writing, a lot of people give up when they can't come to a conceptualization fairly quickly, they can't get on a path that makes them feel like they know what they are doing, and they just stop. When that happens, I just always think more, and I'm willing to stare into the abyss, and think: What is the answer to this question? There's got to be an answer here. I think lots of people give up and say they have writer's block, but I think it's just giving up hope. Everybody has writer's block at various times, times when you don't know how the story is going to end, but you just have to fight through it. You can't use that as an excuse to go and do something else, you have to stick with it. — Martin, personal communication, November 24, 2020)

Martin's dedication to sticking with the hard questions and challenges exemplifies his personal discipline as well as ways in which he practices reflection, the second foundational practice for building creative capacity that we identified.

On Reflection

We began our research with a curiosity about the role that reflection might play in helping practitioners develop greater creative capacity. We view reflection as the space one holds for curiosity, sensemaking, and testing, and know that it plays an important role in catalyzing upstream learning in Austen's Knowledge System. Throughout our research, it became evident that one of the most critical determinants of a meaningful reflective practice is the consistency and discipline that one has for reflection itself.

In their 2005 article *Living, and Thinking about it: Two Perspectives on Life*, Daniel Kahneman and Jason Riis make the distinction between our experiencing self and our remembering self. The experiencing self lives in the present, while the remembering self determines what we get to keep from our experience– they are the storyteller. Building an intentional practice of reflection helps the remembering self to capture and articulate our experiences more clearly. Kahneman and Riis go on further to say that the remembering self does more than tell stories: it is also the one who makes decisions, because we are making choices from the memories of our experiences rather than the experiences themselves (Kahneman & Riis, 2005). In her consulting practice, Alison Heiser, author of FrameShifting (2020), focuses on post-project consulting. She explains that "oftentimes when a project is over, all teams tend to do is remember the answer. They forget how they got there, which is more of the strategic connective tissue of the team and what they need to carry forward to fully realize the opportunity" (Heiser, personal communication, October 30, 2020). Similar to a practitioner's knowledge system and creative DNA, the more we are aware of this fact, the more we are able to begin to use it to our benefit.

The power of a reflective practice comes when it is combined with our lived experiences. Reflection acts as an amplifier of learning. Researchers Di Stefano et al. (2016) argue that once a practitioner accumulates experience with their medium, "the benefit of more experience is inferior to the benefit of deliberately articulating and codifying the previously accumulated experience" (p. 1). They go on further to say that "deliberate learning [reflection] builds both cognitive (task understanding) and emotional (self-efficacy) capacity" (Di Stefano et al., 2016, p. 1). We can begin to describe task understanding as building our creative craft and self-efficacy as building our creative confidence. We will further unpack this in Chapter 6.

In his book *The Talent Code*, Dan Coyle (2009) describes how myelin, a neural insulator in our brains, insulates the neurological pathways we create when we learn a new skill. The more our brain fires a particular electrical impulse, the more myelin is created, further insulating the pathway, making signals stronger and faster. This positive feedback loop explains why athletes, musicians, and dancers get better the more they practice. In the same way, when we reflect, we are re-firing the impulse and further

insulating the pathway. Reflection then has two benefits: the direct benefits we get from reflecting on an experience, and the added benefit of creating a new pathway with our ability to reflect. Thus, we can understand that by fostering a habit of reflection, creative practitioners are building and insulating the neurological pathways that allow them to reflect with increasingly less effort.

When we asked Coyle about myelin and reflection he said, “I think it [reflection] turns into awareness. I think of those people [high performing creative practitioners] as being extraordinarily self-aware. Awareness is like broadband reflection, and it seems to get better as people get better at it” (Coyle, personal communication October 29, 2020). Donald Schön (1983) describes this as “reflection-in-action” which is “central to the ‘art’ by which practitioners deal with situations of uncertainty, instability, uniqueness, and value conflict” (p. 50). This is the heart of creative capacity.

Now that we understand how reflection can help practitioners turn their experiences into tacit knowledge, it is important to note two cautions of relying on memory and reflection alone. The first is that our remembering self is only able to remember portions of an experience, not the complete experience. Harvard researchers Daniel Simons and Christopher Chabris (1999) refer to this as “inattentional blindness” (p. 1059), suggesting that we only perceive and remember the details of an experience that received our focused attention. This explains why when you reflect on an experience with someone else they might describe aspects you failed to see. This inattentional blindness is being affected by our mental models. According to MIT professor John Sterman, we all operate from the basis of our mental models and by their very nature, mental models are wrong and incomplete (p. 525), they are abstractions to help us make sense of our complex world (Sterman, 2002).

The second caution of reflection is that by focusing on the features of our tacit knowledge that we can easily articulate, we are potentially ignoring the details that may be harder or impossible to explain. This has the ability to create what Gary Klien (2011) refers to as “overshadowing” (p. 213). By focusing on the tacit knowledge that we can verbalize, we downplay the tacit knowledge that we cannot easily put words to. This can impact the practitioners’ ability to appreciate, and ultimately, to use the tacit knowledge that lies even just beneath the surface.

Now that we know why it is important to have a reflective practice and appreciate its limitations, we can turn our attention to how we might practice discipline and reflection to build greater creative capacity. Tim Brown, Co-Chair and former CEO of IDEO, suggests fostering a regime for building creative capacity, similar to a fitness regime, that includes reflective activities like teaching, writing and storytelling. He says:

> I need proxies that force me to reflect. Writing articles to deadlines and speaking have been great for me. If I have to go and speak, I have to have a point of view, and I have to think about what that point of view is. So in other words, reflection is something I have to force myself to do in order to meet an obligation to communicate. I force myself to do these things [writing, speaking, teaching] because they forced me to reflect. — Brown, personal communication, October 16, 2020

Brown’s more salient point in framing these activities as some of the most effective for reflection is that they require creatives to make their tacit knowledge and experiences explicit in order to communicate meaning and their essence to someone else. This insight alongside others that we heard echoed throughout many of our interviews and from our literature review, led to the development of a series of principles that creatives can uphold throughout their journey.

In this way, discipline and reflection act as the foundation on which we stand, while these principles offer up the necessary scaffolding to push through the dip so we can build greater creative capacity.

PRINCIPLES FOR CREATIVES ON JOURNEY

06

Six principles emerged from our research as being critical in helping creatives build creative capacity. Individually, each of these principles could stand on their own and be considered as a best practice for creative work. Taken together, these principles present the beginnings of a framework whereby creatives might learn to sit in the space between mystery and algorithm and embrace the tension of the heuristic.

The six principles we developed for creatives on journey are:

1. Use language to get to meaning
2. Embrace ambiguity
3. Activate curiosity
4. Pay attention to surprises
5. Lean into humility
6. Seek diversity

When creatives uphold these principles, they act as a system of fail-safes to navigate the precarious landscape of the dip, helping the creative to emerge transformed.

Principle #1:
Use language to get to meaning

Teaching, writing and storytelling all require the use of language in order to communicate meaning. In our interview with Tim Brown, he described how teaching can be one of the most effective ways to reflect because of how it requires a creative to examine their practice and make their tacit knowledge explicit in order to communicate the qualities and essence of it to others. Teaching can be both formal, lecturing and speaking at a conference, as well as informal, sharing an insight with a colleague or sending an email (Brown, personal communication, October 16, 2020).

For creative practitioners, using written and visual language to get to meaning requires reflecting on experiences, mental models, and worldviews in order to make sense of sometimes disparate pieces of information. Language forces the creative to be precise and weave a narrative of ideas together in order to get to a place to do something productive with it., Design Researcher Michelle Cochrane has a beautiful metaphor to explain what happens.

> I think of thoughts as feathers. If I have a thought, it just sits there like a feather floating in my head, then I have a whole bunch of other feathers come into my head and that one feather that was important is completely gone. It just floated away and I have nothing, I can't keep it and I don't actually get to figure something out. When I write it down, it becomes a stone, not a feather. So I can look at these stones and say, okay, there's five stones here, and they're not going anywhere. They're just sitting here for me, I can see them and manipulate them versus a feather that is just blowing away. — Cochrane, personal communication, November 3, 2020

Similar to Cochrane, Roger Martin uses writing as a tool to think. Early in his career he thought that you had to think more in order to be a good writer. Bernie Avishai, a colleague while at Monitor, told him he had it backwards: that you write in order to think. He went on to say that the mind's ability to think runs out pretty quickly if you do not write it down. For Martin, this was life altering. Now, his process for thinking and writing are one and the same. He writes down a thought, asks himself if it matches what was in his head, and then edits to bridge the gap. He repeats this process until he gets to a place he is satisfied with (Martin, personal communication, November 24, 2020).

Using language is also a creative act, as it gives the practitioner the ability to describe something that does not yet exist. Design researcher and strategist Rachel Hinman succinctly articulates how "People use narratives to describe expectations" (as cited in Kolko, 2010, p. 69). In this way, storytelling and language allow the creative practitioner to devise a bridge between what currently exists (including mental models and expectations) and what is being created and formed throughout the creative process.

When creatives are in the midst of the dip, using language can be a helpful way to make sense of the information available in order to move down the Knowledge Funnel from mystery to heuristic to algorithm which can then be communicated more easily to others. Of course, any good story does not exist entirely within the realm of algorithm, but also connects to what is within the realm of the mysterious – which leads us to the next principle we identified: embrace ambiguity.

Principle #2: Embrace ambiguity

A defining feature of the creative hero's journey is the first step, venturing into an unknown world. Facing the unknown often invokes fear and requires intentionality as the hero moves into a space that is not understood and has not been experienced before.

For creatives, this unknown space is described as ambiguity. Most often this is faced at the beginning of the creative process where the creative must embark on a journey to explore the dimensions of the new problem space, or domain. In the same way this unknown world invokes fear for the hero, facing ambiguity in the creative process often invokes similar feelings about whether the creative will indeed be able to create meaning and make sense of complexity.

Throughout our research, we continually heard how embracing this unknown world and facing ambiguity is often a distinguishing characteristic of high-performing creative practitioners. Many of the creatives that we interviewed described how relishing in this ambiguity often leads to deep inspiration, novel sensemaking, and insights that allow them to develop designs that are not only appropriate for the problem at hand but offer sophisticated solutions filled with meaning.

The ability to embrace ambiguity is something that comes with experience. The more often you face it– and productively work through it, the more comfortable it becomes. In his aptly titled article, *What is Young, Talented and Afraid of the Dark?*, Bob Hambly (2015) talks about the difference he sees between young and experienced designers. He argues that building a "tolerance of ambiguity" is possible but needs to be intentional:

> Tolerance for ambiguity is not a trait we are born with, it is something we learn over time, through experience in ultimately solving problems successfully. The senior designers in our studio had years of practicing this skill and use it intuitively on a daily basis. We assumed all designers worked the same way. What we didn't take into account is that this skill is underdeveloped, possibly nonexistent, in most junior designers. — Hambly, 2015, n.p.

But how might journeying creatives move towards a posture of seeking rather than fearing ambiguity? There will no doubt be challenges and struggles to find meaning in the seemingly shapeless space of ambiguity, but as with any great mystery comes opportunity and undiscovered treasures. Barb Woolley, Principal at the design firm Hambly & Woolley describes her approach like this:

> You have to be okay that your ideas don't come out fully baked, and you have to know that you're going to get there. That point of ambiguity is a bit like being on a balance ball where you're trying to use your core. You're trying to figure out, where am I going to land, how do I find this stability. It's okay that it's still moving, because I know ultimately, I'm going to get there... It's the most exciting part of design. I think it's the time where you are really playing and you are extremely free in your head. You have to just trust you will get there and it takes time to build that trust. — Woolley, personal communication, October 22, 2020

The way that Woolley frames ambiguity as exciting and describes how it creates space for her to play and feel free portrays how she also upholds the next two principles, namely activating curiosity and paying attention to surprises.

Principle #3: Activate curiosity

Designers are often described as being insatiably curious. Just as one can easily bring to mind the child who persistently asks “why”, a designer questions why the world around them is the way it is. In this way, there is a perpetuity of questioning that occurs in order to dig deep into the context of an object, product, service, or even system.

Yet most often curiosity is concentrated at the beginning of a project or creative endeavour. Generative research questions propel the creative practitioner into the realms of divergence. Throughout these first phases of the project, the creative follows curiosity and amasses increasing amounts of data and information. But as the work progresses, the creative must face the task of making sense of what has been gathered. This sensemaking process, described as converging, synthesis, and uncovering insights, can be daunting, and is often the point where the creative experiences the dip.

The good news is that curiosity begets curiosity. From our research, it was evident that high-performing creatives have learned how to remain curious throughout the work of converging and sensemaking. Rather than simply taking information at face value, they have learned to dig deeper and ask more strategic and well-informed questions in order to get to the most hidden (and oftentimes rich and valuable) insights. A helpful mental model to hold is that of an iceberg whereby activating curiosity allows the creative practitioner to get to the deepest parts of the iceberg.

Thus, even throughout the process of synthesis, the creative must learn to maintain an active sense of curiosity to help them maintain momentum through the dip. This creates a positive feedback loop where creatives can then probe deeper by asking more questions. The deeper they go, the more interesting the questions get, furthering their desire to explore.

This positive feedback loop explains why the Five Whys analysis tool is so prolific in management thinking to explore causality.

Originally developed in the 1930s by Toyota Industries’ founder Sakichi Toyoda and made popular by Lean Manufacturing and Six Sigma, the technique is designed to understand the root cause of the problem (Serrat, 2017). After making a statement, there is a series of asking and answering the question “why” five times (hence “Five Whys”) to begin to understand deeper, richer and more meaningful qualities.

Built into curiosity is the notion to try. A bias towards curiosity, is a bias towards action. Without action, curiosity becomes more like a daydream: a nice way to pass the time, but not very useful. Jay Hennessey talks about his experience in the military and how this informed his creative approach:

> I always attribute a bias for action to the military. That’s where I first heard it. Thinking about my career, there were times when we really didn’t know what the answer was, and said, ‘let’s give it a shot’. Let’s try, you know, going in the back of this Jingle Truck, or let’s try using this other tactic. It was a high stakes environment, still having that mindset of we don’t really know the right answer, but we’re really anchored to the problem. Now let’s see what we can try. It felt like that was just a thing that worked. — Hennessey, personal communication, November 10, 2020

Just as Hennessey describes, remaining anchored to the problem and following curiosity from there allows creatives to have a bias towards action. Our research made it clear that this is further strengthened when the creative also pays attention to surprises.

Principle #4:
Pay attention to surprises

Hilary Austen (2010) describes artists' posture towards ambiguity as leaning into the realm of the unknown, trusting that in the unexplained space they will unearth something of value. She describes this value as surprise– something unanticipated that can be used to create meaning out of the void.

> Artists seek rather than fear ambiguity in their medium. They embrace rather than avoid or ignore surprises; instead, they court the solutions that surprises stimulate and the growth that surprises make possible. Taking this approach, artists tend to enjoy intensity, effort, challenge, ownership, motivation, satisfaction, creativity, learning, and even transformation as they work in their medium. (p. 26)

Surprise has the ability to inform and change what a creative does with their medium, as well as how the creative *thinks*. To Austen's point, surprises can be transformative. We often hear surprises being described as watershed moments– a turning point. It is through experience in the unknown world that the creative finds surprises that enable them to return home as a changed person. This change may look different from person to person but to a certain extent each person will experience some form of new knowledge development they can then draw on in the future.

As creative practitioners seeking to build Experiential, Conceptual, and Directional Knowledge, the posture of leaning into ambiguity is critical. By framing and approaching enigmatic problems as spaces from which we might create new forms– and also be formed ourselves, we are able to more intentionally activate Loop One and Two Learning, allowing for greater flow between each type of knowledge (see Chapter 1). Tom Scott is very intentional with how he creates the space for awareness that can lead to surprise. He says:

> I don't actually put mindfulness and reflection in the same Venn diagram. I think they overlap a little bit but not a ton, because reflection is an act of thinking of a certain kind, whereas mindfulness is essentially a not thinking of a certain kind. If you're able to do those two things, and the reflection part being critical because there's going to be a good relationship between good reflection and good mindfulness, you can get to clarity. Clarity is great, what's better is the surprise. The surprise is that thing that just seems to pop up out of nowhere. And that happens to me all the time, but it doesn't happen to me when I'm feeling anxious, it doesn't happen to me when I'm too busy.
> — Scott, personal communication, October 21, 2020

In his book *Creativity: A Short and Cheerful Guide* (2020), legendary comedian, John Cleese describes the connection to reflection and awareness as "feeding the unconscious" (p. 89). This is why we often hear of ideas coming to us in the shower, or walking the dog– surprises from out of the blue.

Through an awareness of the surprises and insights that are yet to be uncovered, aspiring creatives may find cognitive approaches such as "anxiety reappraisal" effective (Brooks, 2014). That is, in the same way that anxiety and fear can be reframed as excitement, we see an opportunity for those who are uncomfortable with ambiguity to reframe the fear of the unknown as excitement and anticipation for what surprises might be uncovered. Rather than attempting to rush through this part of the process, there is an opportunity for the aspiring creative to take pause and note that within the dip lie insights yet to be uncovered.

Principle #5: Lean into humility

The tension between confidence and vulnerability was a consistent theme throughout our research. For the creative practitioner, there is often an aspect of vulnerability at the beginning of a project due to the lack of tangible skill and aspects of ambiguity and uncertainty. Social scientist and author Brené Brown (2018) defines vulnerability as "the emotion that we experience during times of uncertainty, risk, and emotional exposure" (p. 19). Brown continues to describe how, contrary to how vulnerability can make us feel, it is not weakness but rather an essential and foundational aspect of courage.

By virtue of stepping into the unknown, there is a sense of exposure that exists because the creative does not know what they may encounter– and how exactly they will navigate this space. Here is Dan Coyle again:

> At the very beginning of the [skill development] process I think vulnerability is probably the best word to describe the feeling. I mean, 'vulnus' is Latin for wound. Development means exposure and exposure feels really wounding at the beginning of it and then as you go along, maybe you can reframe that and interpret it differently and see it as a strength. — Coyle, personal communication, October 29, 2020

At the same time, the creative practitioner must demonstrate a certain degree of confidence in themselves, their creative DNA, and in their abilities– otherwise they would never hear the call to adventure.

We describe the tension between vulnerability and confidence as humility. For the creative practitioner seeking to build creative capacity, leaning into this tension is imperative. Humility can be understood as strong opinions, loosely held. By this we mean that the creative practitioner must oftentimes simultaneously craft a hypothesis that portrays a hunch or point of view and remain open to being proven wrong. In this way, the creative practitioner must recognize that false starts, dead ends, or dare we say "failure" is actually an important part of learning and building creative capacity.

In our interview with Melissa Quinn, Managing Director of Transformation at Edelman, she talked about an early career experience of getting negative feedback and how she saw this as an opportunity for growth.

> You know, there's a couple different ways you can take a message like that. You can either leave and go try to do something else, or you can try to use it as a learning prompt. I used that experience to evolve my skills, and moving forward it made me much more self-aware and self-reflective. It really started with someone being willing to give me that type of feedback that helped me see that I did not see myself in the same way that other people saw me. I think there's something about being in an environment where you're given feedback and given these prompts that can create this self-reflective mindset. — Quinn, personal communication, October 23, 2020)

Dan Coyle describes experiences like Quinn's as jolts: surprises that jump out and force you to stop and think (Coyle, personal communication, October 29, 2020). When jolts happen, humility is essential. Instead of seeing dissenting opinions as "stupid or evil", Roger Martin (2007) encourages practitioners to take an integrative approach and ask questions like: *Interesting, what do they see differently? What am I missing? How did they get to that insight?* (p. 5). An "integrative thinker", as Martin describes, is also more likely to seek out diversity because they see diversity as an excellent way to make their mental models more resilient.

Principle #6: Seek diversity

By definition, as the creative explores the unknown world, they are encountering new experiences and are exposed to new ways of thinking, new environments, and new challenges. One of the critical insights that emerged from our research was that seeking out newness and diversity (diverging, going broad, casting a wide net) is so important for creatives because it sheds light on current assumptions. This can be articulated in many ways: as finding inspiration, expanding one's mind, or challenging current ways of thinking and doing. Diversity offers creatives more material to work with from which they can uncover insight and derive meaning. David Epstein (2019) argues that embracing diversity is the key to innovation. He says:

> Breadth of training predicts breadth of transfer. That is, the more contexts in which something is learned, the more the learner creates abstract models, and the less they rely on any particular example. Learners become better at applying their knowledge to a situation they've never seen before, which is the essence of creativity. (p. 77)

As Epstein describes, facing qualities in a medium that are contrary to current assumptions presents the opportunity for creatives to expand their current understanding. In order to make sense of new information, the creative has to evaluate both their internal mental models as well as qualities from the outside world. This evaluation brings into question the assumptions that up to this point may have been hidden, that is tacit, and makes them more explicit. Through communication– may it be in writing, verbal communication, or visual language like drawing, the creative can articulate the precise meaning or rationale for what currently exists.

Through this process of making tacit knowledge explicit, there is a parallel process whereby the creative gains insight into who they are. In this way, diversity offers practitioners the opportunity to both refine their creative craft, as well as their creative self.

We have already discussed how facing ambiguity is difficult. Part of this challenge is in the inherent fear of the unknown, but an additional aspect is having to confront qualities that may run counter to the values we hold within ourselves. Without knowing our creative self, it is difficult to face diversity as the challenge to articulate what is tacit may seem insurmountable. In this way, we can start to see that learning, and reflecting on learning, has an important role to play in developing a practitioner's creative craft and creative self. Tim Brown puts it this way:

> When you're thinking about creativity, learning plays a different role in creativity then it might in other sectors. Learning doesn't give the answer. In creativity, what it does is it gives you the platform on which to be creative. — Brown, personal communication, October 16, 2020

We can start to see that there is an important interplay between one's creative craft and one's creative self. It is in this interplay of who one is (creative self) and what one does (creative craft) that we begin to build creative confidence.

A Checklist for Creatives on Journey

Depending on your baseline creative capacity and what the landscape of the dip looks like, some of these principles may hold greater impact at different times. More powerful than any single principle, is the opportunity that you have as a creative practitioner to uphold the principles as a cohesive and reinforcing set in order to create the conditions for growing creative capacity.

When feeling the depths of the dip, check in on these six principles to help guide you through:

1. Use language to get to meaning
2. Embrace ambiguity
3. Activate curiosity
4. Pay attention to surprises
5. Lean into humility
6. Seek diversity

Austen offers up a great way to test if you have been true to these principles. Borrowing a critique technique from the fine arts, ask yourself “How would I know?”. Similar to a painter asking, “How would I know if I captured the light?”, and then taking a critical eye to the canvas to evaluate, creatives can build this type of questioning into their reflective practice (Austen, personal communication, November 19, 2020).

This could look like asking:

- *How would I know if I was seeking diversity?*
- *Did I let my colleague finish their thought, or did I cut them off to argue my point?*
- *Am I only talking to people that are like me with similar backgrounds, education and training?*

Questions like these will offer a way for you to evaluate if you did what you set out to do and question the patterns of your behaviour.

MINDSETS & MODELS FOR CREATIVE CAPACITY

07

Now that we understand the practices and principles that can help creatives move through the dip towards transformation, we can zoom out to understand some of the mindsets and conceptual models that we might hold for building greater creative capacity. For a creative on journey, having a set of guiding principles is like having a map and compass. They are a set of tools that can help keep one on track and move through the challenging parts of the creative process. But just like a sojourner, the tools are not enough in and of themselves to accomplish an ambitious trek. As any accomplished mountaineer will tell you, cultivating the right mindset is imperative to help move through the most challenging landscapes. In much the same way, it became clear throughout our research that there is an important mindset that creatives need to cultivate in order to really grow their creative capacity. In conversations with Hilary Austen, she aptly described this as a "Builder Mindset" (Austen, personal communication, September 22, 2020).

Creative practitioners with a Builder Mindset approach learning and development with humility and an awareness that the more they learn, the more there is to learn. Many of our interviewees described this mindset as having strong opinions, held loosely. This description echoes the tension between vulnerability and confidence that the creative practitioner needs to hold.

More specifically, a practitioner with a Builder Mindset understands their knowledge system and sees each experience as an opportunity to activate upstream learning from experience to concept to direction. In this way, the Builder

Mindset allows the practitioner to approach each project, initiative, or endeavour with the expectation that they will learn something that will not only refine how they do things, but also impact their mental models and, albeit to a lesser extent, their worldview.

The Builder Mindset stands in contrast to an "owner" mindset where a creative practitioner approaches learning and knowledge development from the perspective that their mental models are relatively fixed, making them impermeable and without fault (Austen, personal communication, September 22, 2020). The owner mindset can also be understood as cognitive entrenchment where the practitioner is sure of their approach, perspective, and knowledge and does not give space for significant feedback or critique. As discussed in Chapter 2, cognitive entrenchment can lead to pitfalls along the creative journey, including Hammering Hedgehog and the Blame Game where the practitioner is more likely to fall into states of confirmation bias and defensive reasoning (Argyris, 1991). The practitioner with an owner mindset is more concerned with ownership– the ability to point to and uphold their own accomplishments, making a stronger connection between what they have done and who they are. The connection to identity can further entrench the practitioner in set ways because a critique on their craft is also a critique of who they are. This makes it harder for the practitioner to manage the tension of confidence and vulnerability that is so critical in personal development.

We can think of the six principles as what creatives need to do in order to grow their creative capacity, whereas the builder mindset is how creatives need to think. Both the doing and thinking components are essential and reinforce one another as the creative moves through their process. We can further understand the relationship between the principles and mindset as we consider them in the broader context of building creative capacity.

We began our research with the framework of Austen's Knowledge System and with a curiosity about how creatives might take a more intentional approach to building their own knowledge system and creative capacity. By examining the insights from our research, we developed a working definition and model for creative capacity.

We define creative capacity as the integration of three elements:

1. **Creative self** which has to do with one's creative DNA and the importance of knowing oneself including inherited mental models and worldview. The creative self is also aware of their knowledge system and how it functions when they learn by doing.
2. **Creative confidence** is about learning to trust oneself, leaning into the tension between vulnerability and confidence, and embracing ambiguity. Creative confidence is built in the space between mastery and originality where learning and knowledge development thrive. It could be said that this creative confidence is what pushes creative practitioners to move through the dip with fortitude, hopeful of what lies on the other side.
3. **Creative craft** describes the outputs of the creative practitioner: what is produced, made, created. Craft can refer to a business strategy, product design, service blueprint, painting, music, or any other creation that requires an individual to move through the cadence of the creative journey. Creative craft has to do with how the creative practitioner synthesizes their insights and makes sense of the information they are working with to create something new.

These three elements each represent an aspect of creative capacity but it is by understanding how they intersect and reinforce one another that we can better understand how the practitioner can really build greater creative capacity. Our working model of creative capacity portrays the interplay between creative self, creative confidence, and creative craft (Figure 17).

Figure 17: Creative capacity (Author's model)

The arrows in this model indicate how each of the elements interact with the other elements, with creative confidence playing a central role between creative self and creative craft. Notably, there is no distinct starting point, indicating that any individual has an initial essence of each regardless of where they are in their career or years of practice.

As the model depicts, as creatives develop their craft, so too do they grow in confidence and their sense of self. Likewise, as creatives learn more about who they are, what they believe, and how they might contribute to the world, they grow their sense of self which in turn also grows their creative confidence and their craft. The directionality of the arrows denotes the dynamic nature of creative capacity– something that evolves over time, in relation to how the creative practitioner builds their knowledge system.

If we zoom out one level further beyond the elements of creative capacity, we can devise another heuristic for what it might look like for creatives to build creative capacity as they journey through the creative process. Using the Hero's Journey as a framework, we can imagine that each time the creative "returns home" or completes a creative project, they have new knowledge, insights, confidence, and a greater sense of self– that is, greater creative capacity. In this way, we can visualize creative capacity growing as a series of concentric circles as depicted in Figure 18. With each new journey the creative's capacity grows outward. The perpendicular line at the top is the creative's commitment to begin each new journey into the unknown.

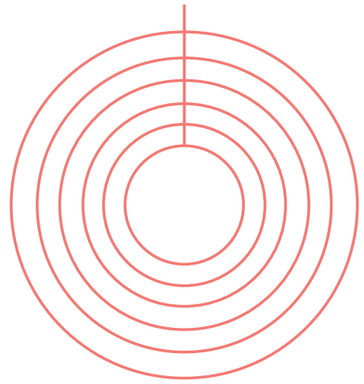

Figure 18: Concentric circles of creative capacity (Author's model)

This model depicts the way that creative capacity can grow with each journey through the creative process, and yet we know, as in life, creative capacity is multi-faceted and comprises many different skills, methods, techniques, and abilities. Each creative endeavour will require and create space for the practitioner to draw on different skills, tools, and methods and will provide the context for new insights about the use and nuance of these. In this way, we can see that creative capacity might be built through a series of more oblong- and elliptical-shaped journeys, allowing for creatives to grow in areas of their creative craft, confidence, and self, depending on the nature of the specific journey. To this end, we might imagine that creative capacity grows more closely in form to the growth of a banana tree, as seen by the cross-section depicted in Figure 19.

Taken together, these models for creative capacity provide a heuristic for the creative practitioner to think about how they build their own creative capacity as they journey through each successive endeavour and project.

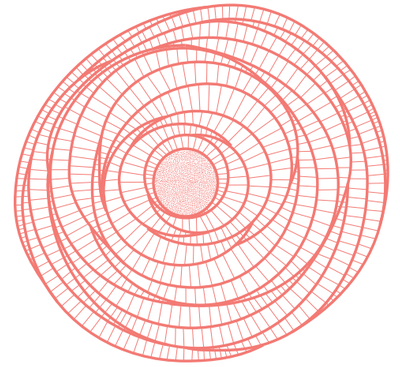

Figure 19: Cross-section of a banana tree (Author's, based on work from Brown, 1935)

In Austen's Knowledge System, Martin's Knowledge Funnel, and the models outlined above, the flow of the activity is as important as the structure. When we talk about individual knowledge development and creative capacity, practitioners must productively manage the tension between structure and fluidity in order to grow. In the case of the Knowledge Funnel, that means being able to move between mystery, heuristic, and algorithm easily. This requires the practitioner to use their mental models (structure) to make sense of complexity and the unknown, but to also remain open enough to see surprises that challenge their mental model and to be curious enough to want to know why (fluidity). When practitioners are too fluid, they are not productive but when they are too rigid, they become superstitious, only looking for activities and evidence that validate their perspective (Martin, personal communication, November 24, 2020).

CONCLUSION

08

Overall, we can see that the journey to building greater creative capacity is neither straightforward nor for the faint of heart. For any creative practitioner working through a project, initiative, or endeavour, we can understand their process through the stages of the creative hero's journey. First responding to the call to adventure and the invitation to move into an unknown world. Once there, they must face challenges and temptations and will no doubt encounter the dip when they realize that their initial peak of confidence has betrayed them. For the practitioners that are able to journey through the dip and effectively avoid the pitfalls (of which there are many), they then move into a stage of transformation followed by the return home, ready to again heed the call to new adventures.

The most defining aspect of the journey is the dip where creative practitioners must avoid a series of common pitfalls in order to fully experience transformation. The six pitfalls that we identified through our research were: Frameworks Fail, A Clean Slate, Data as Reality, The Blame Game, Nailed It, and I Do, Therefore I Am.

In order to avoid these temptations, high-performing creative practitioners uphold a number of practices and principles. Speaking broadly, creative practitioners are committed to lifestyles of discipline and reflection, although how these practices manifest differs from person to person depending on their medium and creative DNA. What we found to be true for all high-performing creative practitioners is how they uphold six principles that guide their work and allow them to move through the challenges of the dip and emerge transformed.

These principles outline how the creative practitioner should strive to use language to get to meaning and understanding so they can in turn more readily embrace ambiguity. In order to do this, creatives should uphold curiosity about and pay attention to surprises. Through humility, creatives can learn to navigate the tension between confidence and vulnerability

and also seek diversity in order to refine existing mental models. Taken together, these principles provide a type of compass for creative practitioners to avoid pitfalls and journey through the dip towards transformation and then the return home.

Moving through the four stages of the creative journey can be understood as a type of cycle through which the creative practitioner builds creative capacity. With each successive cycle or journey, there is greater growth, learning, and development. We define creative capacity through a working model whereby there is a continuous integration and flow between creative self, creative confidence, and creative craft.

Throughout our research we focused on the creative practitioner as an individual because of the opportunity (and arguably, the responsibility) that each person has to build their own creative capacity. There will always be external factors, challenges, and temptations along the journey that the creative practitioner must face, but by upholding the practices and principles that we have outlined, it is our hope that it will be easier to push through the dip.

Moreover, and what we have not addressed here in the scope of this work, is how the creative practitioner rarely works alone, especially in the face of large global challenges and enigmatic problems. Creatives on journey can find strength in looking to their collaborators to encourage one another to hold practices of discipline and reflection, and to challenge one another to uphold the principles in order to move through the dip together. Through an awareness that we are all on a journey, we can create and hold space for one another to move through the dip with the time and effort needed. Although we might bump into one another, we can find alignment in appreciating that we are all facing the unknown, albeit at various stages and can work together to build greater creative capacity not just for ourselves, but for our teams, organizations, communities, and society at large.

REFERENCES

Argyris, C. (1991, May-June). Teaching smart people how to learn. *Harvard Business Review*. https://hbr.org/1991/05/teaching-smart-people-how-to-learn

Austen, H. (2010). *Artistry unleashed: A guide to pursuing great performance in work and life*. University of Toronto Press.

Bjork, R., & Kroll, J. (2015). Desirable difficulties in vocabulary learning. *The American Journal of Psychology,* 128(2), 241–252. https://doi.org/10.5406/amerjpsyc.128.2.0241

Boland, R. (2008). Decision Making and Sensemaking. In F. Burstein & C. W. Holsapple (Eds.), *Handbook on Decision Support Systems 1*, (pp. 55-63). Springer. https://doi.org/10.1007/978-3-540-48713-5_3

Brooks, A. W. (2014). Get excited: Reappraising pre-performance anxiety as excitement. *Journal of Experimental Psychology*, 143(3), 1144–1158. https://doi.org/10.1037/a0035325

Brown, B. (2018). *Dare to lead*. Random House Publishing.

Brown, W. (1935). *The plant kingdom: A textbook of general botany*. Ginn and Company.

Buchanan, R. (2019). Systems thinking and design thinking: The search for principles in the world we are making. *She Ji: The Journal of Design, Economics, and Innovation*, 5(2), 85–104.

Campbell, J. (1949). *The hero with a thousand faces*. Princeton University Press.

Christensen, C. (2014, December 8). *Theory building: Good theories are good friends* [Keynote address]. The Knowledge Conference, Rotman School of Management, Toronto, Ontario, Canada.

Cleese. J. (2020). *Creativity: A short and cheerful guide*. Penguin Random House.

Coyle. D. (2009). *The talent code: Greatness isn't born. It's grown. Here's how.* Bantam Books.

Dervin, B., & Dewdney, P. (1986). Neutral questioning: A new approach to the reference interview. *Research Quarterly*, 25(4), 506–513. https://www.jstor.org/stable/25827718

Di Stefanom, G., Gino, F., Pisano, G., & Staats, B. (2016). Making experiences count: The role of reflection in individual learning. *Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 14-093*. http://dx.doi.org/10.2139/ssrn.2414478

Dorst, K. (2019). Design beyond design. *She Ji The Journal of Design, Economics, and Innovation*, 5(2), 117–127.
Epstein, D. (2019). Range: *Why generalists triumph in a specialized world*. Riverhead Books.

Florida, R. (2002). *The rise of the creative class: And how it's transforming work, leisure, community, and everyday life.* Basic Books.

Fu, K., Murphy, J., Yang, M., Otto, K., Jensen, D., & Wood, K. (2015). Design-by-analogy: Experimental evaluation of a functional analogy search methodology for concept generation improvement. *Research in Engineering Design, 26(1), 77–95.* http://hdl.handle.net/1721.1/104350

Gentner, D., & Hoyos, C. (2017). Analogy and abstraction. *Topics in Cognitive Science, 9(3), 672–693*. https://doi.org/10.1111/tops.12278

Godin, S. (2007). *The dip: A little book that teaches you when to quit (and when to stick)*. Penguin Group.

Goldwater, M. B., & Gentner, D. (2015). On the acquisition of abstract knowledge: Structural alignment and explication in learning causal system categories. *Cognition*, 137, 137–153. https://doi.org/10.1016/j.cognition.2014.12.001

Grove, A. (1983). *High Output Management*. Random House.

Hambly, B. (2015, January 10). *What is Young, Talented and Afraid of the Dark?* Hambly & Woolley Blog. https://www.hamblywoolley.com/blog/what-is-young-talented-and-afraid-of-the-dark

Heiser, A. (2020). *FrameShifting*. Route 10 Press.

Inayatullah, S. (1998). Causal layered analysis: Poststructuralism as method. *Futures*, 30(8), 815–829. https://doi.org/10.1016/S0016-3287(98)00086-X

Kahneman, D., & Riis, J. (2005). Living, and thinking about it: Two perspectives on life. In F. A. Huppert, N. Baylis, & B. Keverne (Eds.), *The Science of Well-Being*, (pp. 285-304). Oxford University Press.
Kalachanis, K., & Michailidis, I. (2015). The hippocratic view on humors and human temperament. *European Journal of Social Behaviour*, 2(2), 1–5. https://core.ac.uk/download/pdf/144779726.pdf

Kay, J. (2012). *Obliquity: Why our goals are best achieved indirectly.* Penguin Random House.

Kelley, T., & Kelley, D. (2012, December). Reclaim your creative confidence. *Harvard Business Review*. https://hbr.org/2012/12/reclaim-your-creative-confidence

Kim, D., & Lannon, C. (1997). *Applying System Archetypes*. Pegasus Communications, Inc.

Klein, G. (2011). Critical thoughts about critical thinking. *Theoretical Issues in Ergonomics Science*, 12(3), 210–224. https://doi.org/10.1080/1464536X.2011.564485

Kolko, J. (2010). *Exposing the magic of design*. Oxford Press.

Kotz, S., Read, C. B., & Banks, D. L. (1997). *Encyclopedia of statistical sciences.* Wiley.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121–1134. https://doi.org/10.1037/0022-3514.77.6.1121

Kurtz, K., Miao, C. H., & Gentner, D. (2001). Learning by analogical bootstrapping. *The Journal of the Learning Sciences,* 10(4), 417–446. https://doi.org/10.1207/S15327809JLS1004new_2

March, J. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), Special Issue: Organizational Learning: Papers in Honor of (and by) James G. March (1991), 71-87. https://www.jstor.org/stable/2634940

March, J. (2006). Rationality, foolishness and adaptive intelligence. *Strategic Management Journal,* 27(3), 201–214. https://doi.org/10.1002/smj.515

Markman, A., & Gentner, D. (2001). Thinking. *Annual Review of Psychology,* 52(1), 223–247. https://doi.org/10.1146/annurev.psych.52.1.223

Martin, R. (2009). *The design of business: Why design thinking is the next competitive advantage.* Harvard Business Press.

Martin, R. (2007, Fall). Becoming an integrative thinker. *Rotman Magazine*. pp. 4-9. http://www-2.rotman.utoronto.ca/rogermartin/Becominganintegrativethinker.pdf

Maslow, A. (1966). *The psychology of science: A reconnaissance.* Gateway Editions.

Miller, R. (2020, June 19). Anticipation and uncertainty: Introduction to futures literacy [Virtual talk]. UNDPPA Informal Talk Series, United Nations Guidance and Learning Unit, hosted online on Microsoft Teams.

Owen, C. (2007). Design thinking: Notes on its nature and use. *Design Research Quarterly,* 2(1), 16–27. https://designthinking.typepad.com/dialogues/files/design_thinking_article.pdf

Robinson, K. (2010). *Bring on the learning revolution* [Video]. TED. https://www.ted.com/talks/sir_ken_robinson_bring_on_the_learning_revolution

Schön, D. (1983). *The reflective practitioner: How professionals think in action.* Routledge.

Serrat, O. (2017). The Five Whys Technique. In: *Knowledge Solutions.* Springer. https://doi.org./10.1007/978-981-10-0983-9_32

McNamara, T. (Writer), & Chessell, B. (Director). (2020, May 15). Parachute (Season 1, Episode 6) [TV series episode]. In M. Shakman (Producer), *The Great*. Paramount Television Studios.

Simons, D., & Chabris, C. (1999). Gorillas in our midst: Sustained inattentional blindness for dynamic events. *Perception*, 28(9), 1059–1074. https://doi.org/10.1068/p281059

Sterman, J. (2002). All models are wrong: Reflections on becoming a systems scientist. *System Dynamics Review,* 18(4), 501–531. https://doi.org/10.1002/sdr.261

Tetlock, P. (2005). *Expert political judgement: How good is it? How can we know?* Princeton University Press.

Tharp, T. (2006). *The creative habit: Learn it and use it for life.* Simon & Schuster Paperbacks.

Ulrich, W. (2000). Reflective practice in the civil society: The contribution of critically systemic thinking. *Reflective Practice,* 1(2), 247–268. https://doi.org/10.1080/713693151

Weick,K., Sutcliffe, K., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, 16(4), 409–421. https://doi.org/10.1287/orsc.1050.0133