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# Relational Leadership, DevOps, and The Post-PC Era: Toward a Practical Theory for 21st Century Technology Leaders

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RELATIONAL LEADERSHIP, DEVOPS, AND THE POST-PC ERA:  
TOWARD A PRACTICAL THEORY FOR 21ST CENTURY TECHNOLOGY LEADERS

MOUDY E. ELBAYADI

A DISSERTATION

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of Antioch University  
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Doctor of Philosophy

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This is to certify that the Dissertation entitled:

RELATIONAL LEADERSHIP, DEVOPS, AND THE POST-PC ERA:

TOWARD A PRACTICAL THEORY FOR 21<sup>st</sup> CENTURY TECHNOLOGY LEADERS

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Hope you feel like your sacrifices were worth it, and I hope that I can have the same courage to do the same for my own children. Thank you.

### **Dedication**

To Samuel. Thank you for creating a new relational context of living that is filled with joy, laughter, and discovery. May you go on, my dear son, and do good work in the world.

## Abstract

This theoretically oriented scholarly personal narrative (SPN) explored how the constructionist view of relational leadership might be applied in a post-PC technological era marked by fast-paced innovation and an *always on* technology organization and infrastructure. Through reflecting on my personal and professional experience, I hope to offer the reflective scholar-practitioner new ways of thinking, present relational practices and suggest ways of being a leader participating in the fast-paced technology driven world. This new way of being combined both relational leadership and new DevOps practices that reduce organizational friction, break down departmental silos, and increase employee engagement in technology operations. Through this inquiry, I uncovered several practices and ways of being that are grounded in philosophical, theoretical, and social domains. In challenging the taken-for-granted reality of managing technology, I am attempting to produce practices for higher performance, humane, sustainable, and inspiring corporate information technology (IT) departments. The electronic version of this Dissertation is at AURA, <http://aura.antioch.edu/etds/> and OhioLink ETD Center, [www.ohiolink.edu/etd](http://www.ohiolink.edu/etd)

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## Chapter I: Introduction

In late 19th century France, farmers were disturbed and confused by a strange and new disease destroying their sheep and cattle (Denning & Dunham, 2010; Pasteur, 2002). They tried every known conventional treatment method, but their efforts were futile. The environment had changed in a way that they did not quite understand. The French government asked Louis Pasteur to help investigate the cause and develop a remedy for the epidemic that was debilitating the farming industry—a large contributor to the nation’s economic health. By that time, Pasteur had already created a name for himself as an innovator and problem solver who perceived things differently from the rest of his scientific community (Pasteur, 2002).

The disease killing off the livestock turned out to be anthrax—a fatal infection from naturally occurring bacteria. As Pasteur started his fieldwork, he discovered an odd phenomenon. He found that by isolating the anthrax bacteria and giving a healthy animal a small dosage, it would later prevent the animal from succumbing to the disease. At the time of experimentation, the *vaccination theory* as a distinction (Bains, 2006) in the domain of dealing with viruses was unthinkable. It sounded crazy. To some, it was heretical. Why would anyone want to infect healthy animals? Some prominent veterinarians challenged Pasteur to “put up or shut up.” On May 31, 1881, Pasteur demonstrated the power of his innovative thinking with a simple experiment. He vaccinated 25 of 50 cows and then delivered a lethal dosage of anthrax bacteria to all. His vaccinated cows were saved, while those that were not treated died within three days. From an historical perspective, all of humanity, as well as domesticated animals, have benefited from Pasteur’s work and his ability to think differently about problems. He led a paradigmatic change that challenged the existing conventional knowledge of his day (Kuhn, 1996). Denning and Dunham (2010) write, “The moral of his story is this: Entrepreneurs and [business leaders],

if you want to make an innovation that people will care about and value, look for dying cows. Show the people how to keep their cows healthy” (p. xxiii). The other moral of the story has to do with challenging the existing taken-for-granted ideas, notions, and concepts that might no longer be applicable for a world that is constantly changing and for language that continues to unfold (Cunliffe, 2008; Gergen, 1999).

I first read this story over three years ago, prior to starting my doctoral work at Antioch University, and it has served as a guide throughout my leadership and change studies. The metaphor of Pasteur’s dying cows remains meaningful to me as a scholarly-practitioner,<sup>1</sup> a term that Jarvis (1999) uses to describe professionals carrying out research in their domain of practice. As a technology executive, I have encountered dying cows in many of the information technology (IT) departments with which I either consulted, or for which I was hired as a technology leader. Even before I learned of the dying cows story, I was searching for new ways to solve the increasing problems and challenges in IT operations and management. Foucault (1988) suggests, “There are times in life when the question of knowing if one can think differently than one thinks, and perceive differently than one sees, is absolutely necessary if one is to go on looking and reflecting at all” (p. 8). This dissertation serves as a way to connect my current philosophical stance, theory and leadership practices as *new ways of thinking and perceiving* to save the dying cows in my industry. The lens I will use in this study is a social constructionist view of relational leadership (Fletcher, 2012, 2004, 1999; Hosking, 1995; Uhl-Bien & Ospina, 2012). I found Gergen’s (2009) explanation of relating and relational leadership provides a rich description:

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<sup>1</sup> This is the term that I prefer to use to describe myself. I think the order of the words is important, in that I approach my work as a practitioner with a scholarly perspective rather than a scholar who has an interest in practice or performing practice on the side.

Virtually all faculties traditionally attributed to the internal world of the agent—reason, emotion, motivation, memory, experience, and the like— are essentially performances within relationship...in all that we say and do, we manifest our relational existence. From this standpoint, we may abandon the view that those around us cause our actions. Others are not the causes nor we their effects. Rather, in whatever we think, remember, create, and feel, we participate in relationship. (p. 397)

The constructionist view of relational leadership is one of interdependence, embeddedness, and contextualized interactions. In that sense, the method of research and analysis differs from conventional methods. Individuals are constituted or are the derivative of the relationships, rather than the other way around. Shotter and Cunliffe (2003) suggest the implications of this view, “organizations are not seen as structures, but as ‘landscapes’ of socially-maintained features, providing a common sense (an ethical sensibility) of organizational life. This landscape emerges within relationally-responsive dialogue between organizational participants” (p. 3). Cunliffe and Eriksen (2011) further describe a constructionist view of relational leadership as having “four main conceptual threads... leadership is a way of being-in-the-world; encompasses working out, dialogically, what is meaningful with others; means recognizing that working through differences is inherently a moral responsibility; and involves practical wisdom” (p. 1433). I have worked with computers for 20 years now, and I have come to appreciate the relational leadership approach to helping develop high performing teams and support the new DevOps movement, which I will describe later in this chapter and offer a more thorough review in Chapter II.

### **Nonconventional Thinking**

In 2007, the *New York Times* published an article, “C.E.O. Libraries Reveal Keys to Success” (H. Rubin, 2007). While the title attempted to seduce and hook readers, the article itself did not reveal any “real” secrets to success. Rather, it disclosed how some very successful and prominent executives, such as the late Steve Jobs of Apple, former Nike CEO Phil Knight, and

Silicon Valley venture capitalists, had built large personal libraries and amassed a variety of ancient texts on poetry, art, history, and Eastern and Western philosophy. The libraries were private and the leaders used the texts as sources of inspiration and insight for running their large, complex enterprises. What surprised me was the way these leaders of major *Fortune 100* companies were not spending their precious time reading the latest fads in the popular business management press, where the masses go for tips, tricks, and what to do next. Rather, these executives were cultivating a philosophical mindset by reading ancient books, such as Omar Khayyam's *Rubáiyát*. In light of Foucault's words, it would seem they were searching for new ways to think and perceive as a source of power for leading their organizations, and, perhaps, for saving the dying cows in their respective industries. While Jobs, Knight, and other CEOs were not all social constructionists or postmodern thinkers per se, I am suggesting these leaders stepped out of the predominant Western worldview and the linear thinking that exists in the narrow fixed space of positivism and objectivism. They were open to possibilities beyond the common sense of our time (Isaacson, 2011).

I began with the dying cows analogy and *New York Times* article because I, too, was once searching for a new perspective on what it meant to be a manager and for new direction on what I should *do* as a leader. The *Times* article was a source of inspiration that eventually led me to learn about the social constructionist worldview and, more specifically, the relational leadership perspective, which looks beyond the individual as the source or location of leadership (see Chapter IV). Even after earning a traditional MBA and, then, an even more traditional Master's in Organizational Leadership (deeply entitative, meaning it focused on the individual "entity" as the center of leadership [Hosking, 1995, 2011b]), I was left wondering why what I had learned was not helping me make better observations, interpretations, and assessments of the situations I

encountered at work. I discovered that no matter how many times I read former General Electric CEO Jack Welch's books *Winning* and *Jack: Straight From the Gut*, I was not able to become Jack Welch! And as I reflected on this, I concluded that mimicking a popular CEO, who had become romanticized (Meindl, 1995; Shamir, 1992) as a superhero, would neither be consistent with my values nor who I wanted to be as technology leader.

I also had not yet discovered the linguistic turn and the power of language (dialogue, narratives, and discourse) as a generative tool of communication and coordination (Alvesson & Kärreman, 2000; Deetz, 2003; Fairhurst, 2009). Many relational leadership scholars with a social constructionist view posit that language and dialogue are fundamental in constituting a leadership context. For example, Hosking (2012) suggests that dialogue

is theorized as a slow, open and curious way of relating characterized (a) by a very special sort of listening, questioning, and being present; (b) by a willingness to suspend one's assumptions and certainties; and (c) by reflexive attention to ongoing processes and one's own participation. (p. 469)

This is quite a different approach from what is taught in business schools or written about in the popular business management press. As I will later discuss, conventional wisdom is still based on a Cartesian framework, where the world is fixed and there is clear separation between the subject and object (Bentz & Shapiro, 1998).

Just as the CEOs I mentioned were always searching for new ways of thinking, new sources of inspiration, and new ways of being that ran counter to what was mainstream, in this practice-based theoretical study, I intend to explore new ways of seeing the work of leadership and imagining new practices that support the technology organization of the future. This new conceptualizing of leadership challenges the traditional, or conventional, idea of what it means to be a leader in the context of IT management. This research is an attempt to challenge the taken-for-granted ideas in leadership and to explore new ideas that are counterintuitive to what is

taught in business school and the everyday common business discourse (Cunliffe, 2009a). I began with the dying cows story to illustrate that Pasteur did not conform to what was then the common-sense way of dealing with the anthrax crisis, which would not have produced a remedy for the dying cows.

**DevOps.** New post-industrial companies, such as Facebook, Twitter, Etsy, Airbnb, and Uber, have challenged existing common-sense approaches for managing technology. These types of new high-tech startup and fast-growing Internet businesses have already started to pioneer a new way of organizing and doing technology work; recognizing the dying cows in their respective companies. Duvall (2012) describes DevOps as “a response to a continual frustration: a lack of collaboration and communication between development and operations on software projects that increase the time and labor involved in delivering and maintaining software systems” (p. 5). Rather than separating product development (software engineering) from IT operations (the people that run the systems), which creates silos and reduces meaning and interactions, these teams are joined together to increase communication and interaction (see Figure 1.1 for the typical silos that exist in the modern organization). The entire work is seen from a new perspective of operating as one unit and managing the environment as one holistic system. DevOps is a grassroots movement that has already demonstrated incredible results for companies that embrace the culture, tools, and philosophy of DevOps. In Chapter II, I provide an overview of the DevOps movement.



*Figure 1.1.* Department silos and conversations inside a typical organization. Adapted from *Silos* by Doc Searls, Retrieved from <https://www.flickr.com/photos/docsearls/5500714140/> Used under Creative Commons Attribution 2.0 Generic license (<https://creativecommons.org/licenses/by/2.0/>)

### **Scholarly Personal Narrative (SPN) Writing**

The importance of sharing stories and personal narratives will be one of the common threads that hold this work together. I am deeply indebted to Nash (2004; Nash & Bradley, 2011), who introduced me to scholarly personal narrative (SPN) writing. In Nash's view, SPN is a melding of scholarship, personal self-disclosure, and narrative. In his own writing, he demonstrates how it can be a powerful tool for self-discovery, as well as for producing provocative, and intellectually interesting work. According to Nash (2004), good SPN writing has the following characteristics: particular and general, concrete and abstract, down-to-earth and theoretical, personal and, yet, universal. Nash's approach is related to a host of methods that seek to make sense of the human experience "as-lived." These approaches include narrative ethnography, reflexive autoethnography, personal essays and memoirs. I hope to use Nash's

approach to writing a scholarly thesis to achieve my personal and professional goals, which have inspired my research. Before I discuss the specific challenges and the origins of the study, I want to offer some background information about who I am as a scholarly-practitioner (Jarvis, 1999), because outside of my academic work, I spend the majority of my waking hours solving people, process, and technology challenges. In Chapter IV, I will describe the SPN that forms my methodology to writing a theoretically grounded, practice-based dissertation.

### **Situating the Researcher: How I Arrived at This Place**

In order for me to do justice to the topic of my research, I begin by offering my background and who I am as a person, my professional context, and my intellectual and academic work. Bentz and Shapiro (1998) write,

Research is always carried out by an individual with a life and a lifeworld, a personality, a social context, and various personal and practical challenges and conflicts, all of which affects the research, from the choice of a research question or topic, through the method used, to the reporting of the project's outcome. (p. 4)

As I will demonstrate in the next chapters, my personal stories of immigration, learning to live in a different culture, and corporate management experiences have shaped my topic and approach. As Nash (2004) reminds us, "Good teaching, good helping, and good leadership are, in one sense, all about storytelling and story-evoking" (p. 2). He goes on further to clarify the power of stories in their ability to meet people where they *live*. "It is in the mutual sharing of our personal stories, particularly in the willingness of professionals to listen to the stories of others, that we make the deepest connections with those we are serving" (Nash, 2004, p. 2). As I will be describing later, this inquiry is tightly integrated with who I am as person, and by providing this context, it better situates me as a researcher. I hope my stories and learning moments I share here will help develop connections with the reader. In each of the following chapters, I include personal stories that connect with my study in several ways.



## **“Coming to America”**

We flew first class on TWA, leaving Cairo International Airport. Our final destination was Los Angeles, L-A-X. My three favorite letters! We were finally coming to America. Fortunately for my brother, Mama and me, we were traveling with my dad's uncle. He was a shrewd businessman, so California real estate investments had brought him wealth and prestige. Since TWA benefited from his many business trips, it was easy for him to get us on first class on a jumbo 747. I still have a faint memory of the spiral staircase that connected the main and upper decks. I was astonished at the size of the plane. To that point in my life, I had never before seen or come so close to a plane. I would rarely see them flying overhead in my small farming village of Dekernes. The night before we left, my brother and I could not sleep. We were so excited and enthusiastic about the journey to our new home in America. We played a game where we asked each other, “What do you want to do first when we get to America?” It is the type of question that can last for hours as each of us answered the question multiple times. I, of course, would try to outsmart my older brother by raising the ante each time with more and more ridiculous things—like meeting President Reagan. Eventually, we both agreed that visiting Disneyland would be near the top of our lists. My dad had left for America a year prior, in 1986, so we missed him and were eager to see him again. In an Egyptian predominantly patriarchal society it was difficult for my Mama, who never learned how to drive a car in Egypt, but somehow she managed to keep us safe for the year that my dad was thousands of miles away. It was not an easy task with two young energetic boys, constantly getting into trouble. Because we were not sure if we would have to return to Egypt, we kept most of our belongings there in our second floor flat. It was my first leadership lesson: being comfortable with uncertainty and a lack of clarity at what might lie ahead. I also recall for the first time, experiencing the thrill of the

notion of unbounded opportunities that lie ahead. I boarded that plane as a ten-year-old boy, full of hopes and dreams for the future of our new life in America.

The first few days are fuzzy for me, but I do remember that our new refrigerator was full of food! Fresh apples the size of oranges, and delicious summer fruit like peaches, apricots, and plums. We also had ice cream! It came in a huge tub and I could not believe that there were more than two flavors. My first supermarket visit was to Safeway, and I was just baffled by the tremendous quantity and variety. It was surreal that people could live in such a land where there was plenty of everything. The only problem was choosing what you wanted. I was amazed that when walking in the streets of Pasadena, California, I saw fruit trees that went unpicked by their owners. Perfectly ripe fruit was just falling and rotting on the ground. I picked a lot of fruit that first year, until I learned that the owners did not appreciate intruders onto their properties. They preferred to leave the trees alone—and the fruit to ripen, fall, and rot—rather than have a stranger trespassing into their yards. This was an odd concept for a kid coming from a poor country where millions of people never had enough to eat, and where fruit was a special and expensive treat. It would take me many months for the new privileges and the abundance to fade into the background. But even now, I approach corporate assets and my own resources with a degree of care and diligence that had its beginnings in my early childhood, where there was always a focus on conservation of resources.

### **“Living on the Nile”**

Sinclair (2007) writes "all childhoods shape people's appetites for and vulnerabilities in leadership" (p. 59). This has been also true in my life and leadership practice. The first ten years of my life were spent in a very different place— a context that shaped my thinking and being. I was born in Egypt, in a small farming village called Derkernes, Daqahlia approximately 150

kilometers north of Cairo. We lived a simple life. My brother, three years my senior, and I would spend most of our days outside playing games with the other neighborhood children. Two of the earliest feelings that I remember experiencing as a child were of being ashamed and feeling like a victim of situations beyond my control. I was persecuted for being a Protestant Christian minority in a predominantly Muslim farming village in one of the largest Muslim countries in the Middle East. To make matters worse for my early childhood, my father was a minister, which meant high expectations from the congregation on the one hand, and more shame from my Muslim peers on the other. To be called a kafir (infidel) was a stinging and painful rebuke by the majority of my friends. However, being poor and malnourished in this small village of dirt roads and red mud bricks, was not really a unique experience. Most of the kids that I knew got the same government food and daily lunch, which was often a loaf of bread and some cheese or halawa, made of sesame seed paste and honey.

These early memories and experiences of leaving that which was comfortable and going to a new land, learning a new language, and adapting new social customs has allowed me to see my life from different vantage points. It has produced courage in some situations and fear in contexts when dealing with formal authority. Sinclair (2007) suggests leaders—and I include scholarly-practitioners—should “become more reflective about their backgrounds in order to foster better and more liberating practices of leadership...by paying attention... about the experiences that have shaped our early lives, we find more freedom to grow and lead differently” (p. 57). My background has shaped my identity and helped me hone my leadership practices. For example, I am delighted when I am able explore new places, meet new people, and even look forward to working at new companies. I get anxious when I begin feeling too comfortable in my position and the opportunities to learn and be challenged begin to decline. Much of my passion

and zest for life, for business, and maintaining an ambitious career, has its roots in my early childhood. On the other hand, growing up in a police state where the government held ultimate power and authority over the people, I learned very early on that I needed to submit and not challenge authority. The fear continues to this very day, although through reflexive practice I have learned to manage my fear and challenge some deeply rooted assumptions about structures of power and authority. I have also learned to be a better steward and sensitive to holding powerful positions entrusted to me as technology executive. It is one thing to see yourself as the powerless victim, it is even more important to recognize when you hold formal authority and power and use it for good and not harm.

### **Academic Journey**

Everyday my parents would remind me that because we were now in America, we could achieve great things without any barriers from religious or political persecution. Although at an early age I sensed the strong currents of racism in U.S. schools, I still believed in the American Dream. At the very least, I knew we had escaped the Egyptian nightmare of millions of people living under a dictator, unable to pursue their goals and dreams. I often heard from my parents the importance of an education as a path to join the middle class. Not only did I hear this often, I also began to see it in the new Egyptian community sprouting up in the San Gabriel Valley, 15 minutes from downtown Los Angeles. Several Egyptian immigrants in our community were attending college to learn software development and work as Microsoft technology consultants. Many others continued their engineering or medical degrees after settling in the U.S. and obtaining their “green cards,” the ultimate ticket to live in the U.S. as a legal resident.

Unlike others who had a clear academic path and knew they were going to pursue a college education, my path in academia was not always clear. There was a time when I disliked

learning and all I wanted to do was run away from teachers and leave the classroom. I left my homeland, Egypt, and arrived in America in the summer before fourth grade. I did not speak English and I quickly became frustrated and disoriented with learning. I survived elementary school and some cruel bullying by kids that only saw me as a “camel jockey” and other hurtful names. Racism in Southern California sounds odd because there are so many immigrants that reside there. But in the 1980s, I found the schools in Los Angeles to be more like jungles than safe places for learning. Junior high and high school were also dreadful, but at least I was able to communicate with others and develop friendships. My grades were not great and I began telling myself, “I am not smart... and I don’t belong here.”

By the end of high school I had resigned myself to going to a trade school to learn how to repair diesel engines on 18-wheeler trucks. Someone from a local technical school had stopped by the high school and told us of the great salaries mechanics were making fixing trucks. I remember the recruiter saying that it’s just like “death and taxes... people will always need trucks to move goods around the country.” That’s where I was headed because the thought of more schooling was so unappealing. I was simply afraid of continuing to feel like I was failing and not learning. It was around this time in high school that I began to experience the power of stories that we tell ourselves. As long as I was living in the story that I was not very smart and could not succeed in school, my emotional state (was one of resignation and despair at how my future might turn out.

In *How Children Fail*, Holt (1995) writes,

What is most surprising of all is how much fear there is in school. Why is so little said about it. Perhaps most people do not recognize fear in children when they see it... most children in school are scared most of the time, many of them very scared. Like good soldiers, they control their fears, live with them, and adjust themselves to them... The scared fighter may be the best fighter, but the scared learner is always a poor learner. (p. 93)

I found myself to be a very poor learner indeed. Fortunately, I was advised to take some courses at a local junior college. Citrus College was located a few miles away from my home in Azusa, California. That was the beginning of my cultivating the life of the mind.

A World Literature 101 course was the beginning of a love affair with learning and knowledge. The subject did not matter; if the topic sounded interesting and I was curious about it, I would dive in and enjoy the learning. In the college classroom, there was a release of fear of failure and more focus on just the learning. Because I did not have a clear destination, I thrived on learning in an environment that was not demanding me to just pass exams. Socrates' words still ring true to this day, "Education is the kindling of a flame, not the filling of a vessel" (as cited in Tait, 2013, p. 209).

In college, certain leadership qualities became apparent: I wanted to help others, clarify, encourage, and talk about my interpretation of the material. Other students praised me for my understanding and competence, which reinforced that I was good student. I began to feel good about my heritage and my background and experience of growing up in Egypt. The story about myself was beginning to shift, and so did the moods and narratives associated with it (Hudson, Gebelt, Haviland, & Bentivegna, 1992; Sieler, 2009). I went from feeling like the only job I could do was fix diesel engines to believing I could be successful in college and graduate school. Learning was becoming a joyful experience. I read as much and as often as I could. It was truly one of the first transformative experiences that I had as a young adult. I began to see a shift in my way of being (Sieler, 2009) and I saw new possibilities for how my future might look. Recognizing that certain narratives can grip a person, and become an anchor, holding us back from making progress, from growing and becoming our best selves has been one of the most valuable leadership and life lessons (Kegan & Lahey, 2009).

After earning my undergraduate degree in psychology, I applied the same level of enthusiasm, curiosity, and wonder about technology. As a poor immigrant from Egypt, I was living the story of one pursuing the American Dream. In the first year after college, I read and studied seven volumes of dense technical text. To this day, I am still surprised I studied over 3,200 pages of text over a one-year period and passed all the technical exams required to earn a highly valued Microsoft certification. Both professionally and personally, I remained committed to learning and to continually increasing my knowledge and skills. My commitment continued by earning a traditional MBA from the University of Redlands which I pursued because I needed to deepen my understanding of how business functioned and the fundamentals of what makes a business successful. I also studied leadership and earned a Master Degree in Organizational Leadership, Chapman University in order to make sure my practice at work was informed by good theory and leadership philosophy.

### **My Journey in Information Technology**

As an undergraduate, I studied psychology and graduated with honors. Although I had begun thinking about continuing my psychology training at the graduate level, my bachelor's degree left me poorer than I'd ever been and the crippling amount of debt was too overwhelming. I simply could not justify continued study. Fortunately, I had developed some computer skills, which earned me money through small consulting jobs during my college years. Between working in the college computer lab and installing network cards to connect dorms to the Internet, I was able to grow my PC competency and earn more money than, say, working in the college dining commons.

Upon graduating, one of my professors introduced me to the CEO of a software company in Santa Barbara, California, and was able to help me get an interview. During the 1990s, Santa

Barbara was referred to as “Silicon Beach,” because there were so many software startups sprouting across the county. Unfortunately, the momentum and the scale never rose to the levels of Silicon Valley. I started my first job as a systems engineer—my first real job—and I was ecstatic to be earning real money and working with computers. When I began, I was having so much fun learning new technology and traveling, that I almost forgot it was work! Because of the pure joy I experienced from my job, I was amazed someone was actually paying me to do it. Although that novice enthusiasm did not last, I eventually began to see myself as a technology professional. The mental challenge was exciting and the financial rewards were significant (considering my alternatives), so I continued to develop my skills, earn technology certifications, and move up the corporate hierarchy. I accepted roles in new companies that valued my skills more than the previous companies.

I eventually became a senior consultant working with different technology leaders in the Los Angeles area. Clients ranged from large financial services to medium-sized law firms, and even a few entertainment and media companies in Hollywood. I began to develop friendships with some of my clients and several of them became my mentors. During this time, I began to observe how having the right conversations can change the trajectory of one’s life. Flores (2013), who developed a theory of communication, challenged the assertion that when people communicate, they simply pass information back and forth like two computers on a network. Instead, “people get things done—share interpretations and make commitments to each other that take care of their concerns—thereby shifting their future expectations, possibilities, and, in turn, the direction of their future (Flores, 2013, p. xvi). Because of the conversations I was having with senior leaders, they were able to see potential in me that I had not yet discovered. They pushed me to move into management, which at the time I thought was unlikely, given my lack of



experience and low self-confidence. Then one day, one of my clients informed me he had an opening for a managerial position in his company, which would allow me to manage three to four people. As I have learned over and over in my career, taking risks has its rewards. So I left the consulting world and my comfortable position and moved into management. That was over fourteen years ago.

Since then I have been incredibly fortunate to have senior leaders trust me enough to give me greater and greater responsibilities and larger spans of control. One of the reasons I have been excited to conduct this study is I still recall the difficulty and stress associated with running and operating complex IT systems. This present study has enabled me to use my training as an IT professional and my education and experience as a technology leader to present a new vision of relational leadership and DevOps practices that have shown promise in my own work context.

### **Relational Leadership and Organizational Suffering**

Aronie (1998) writes,

We don't go looking for transition. Transition crashes in on our cozy nests and we are thrown out onto the street to crawl in the gutter, to double over in pain, to carry the full weight of confusion everywhere we go. Transition is an opportunity to take the call. But not everyone does. (pp. 165-166)

One of the most difficult leadership transitions in my career, which shifted my thinking on organizations, leadership, and organizational suffering, began to unfold several years ago.

The following story has helped me understand organizations in a visceral way. Retelling my experience has helped me find meaning and draw courage to deal with changes in technology organizations, as well as to develop relational practices (Gabriel, 1991a, 1991b), and work towards developing new practices that empower managers to launch DevOps movements in their own companies and specific contexts.

## **“Leadership Breakdowns”**

The story begins when “Sam,” our Chief Information Officer (CIO), abruptly announced his resignation. He said he was taking some time off to be with his family, but it seemed odd that he would leave such a great job. We all concluded he was being forced out. My manager, “Dan,” was the VP of IT and reported to Sam. Our organization was stable and my situation was going well. I was learning and growing as a technology leader, and was responsible for a \$17 million budget. Sam was grooming Dan for a more senior leadership role, and because the relationship was solid, it had a positive impact on me and the other leaders who reported to Dan. I was in a good place and felt I belonged on Dan's leadership team. Prior to Sam's departure as CIO, he approved and supported my promotion. This was a big deal for me, since I had not yet turned thirty years old and held one of the top IT leadership roles in a \$3 billion dollar technology company—one of the most admired companies in the world.

Sam left and a new CIO was hired to run the IT organization. Within a few short months, it became clear she neither valued my boss, nor the team he had built over the previous three years. I began to feel insecure. Clouds were forming all around me; a sign of a major storm touching down.

It was May and I had just returned from a great vacation with my wife. The first day back, Dan called me on the phone and it was obvious from his voice that something was not well. He was nervous, but trying to cover it up.

"Hey Moudy, how was your vacation?"

I gave an incomplete answer; I sensed there was something seriously wrong. "It was very good. Nice time snorkeling and relaxing on the beach....How are things going with you?" I asked, a little concerned about why he had called me at 7:30 A.M. on a Monday.

"I am sorry that I am calling you this early, but I wanted to let you know that I am going to be leaving the company." He spoke softly and I felt like it was still painful for him to say these words out loud.

"Everyone on the team already knows, but I didn't want to call you on vacation to let you know."

My heart sank and my stomach turned. No words came out.

"Do you have any questions, Moudy?"

"Um... no."

"Okay. Don't worry. Everything is going to be fine."

"Thanks, Dan."

"Okay. We'll talk later."

Suddenly I found myself part of a completely different company. My boss was being "transitioned out," a nice euphemism for getting fired. Many of my colleagues were given a choice: leave now and take a severance package or take a chance and leave with nothing. It was a very difficult time for me as I tried to adjust to this sad and unexpected change. I was sad over the loss of the team and my boss and felt like the lone survivor.

In a matter of months, I went from being a "rising star" to a total outcast on a new team. I was no longer being invited to the strategic organizational meetings, and was removed from the list of leaders that lead new employee orientations for the company. The biggest indicator of being marginalized was that my scope and influence in the organization was reduced, so did my interaction with the new CIO. The mood of victim was settling on me in full force. All I could think about was how unjustly I was being treated, and I was simply paralyzed. I was behaving like one of Seligman and Maier's (1967) dogs in the "learned helplessness" experiment. I could

not control the cause of the pain and the literal shock to my system. Like the dogs in the cage that just gave up and lied down, whining while receiving the electric shocks, I, too, had given up and I completely lost my center.

The storm had begun and darkness fell. I was swimming alone in the ocean with waves of disappointment crashing over my head. The tsunami came when the new CIO who had fired my boss, sat me down for the annual performance review and informed me that I had a "choice." I could stay with the company, but not as a director (a demotion), or I could take a severance package. I was asked to take a few days to decide, as the CIO was going to be announcing the new organizational structure and needed to know how she should address my situation.

Would I be leaving the company? Or staying in a slightly different role and reporting relationship? I struggled with the decision and did not sleep well for several days. Ultimately, I made the choice to stay and informed the new CIO of my decision. In retrospect, I was too helpless to think of other options. What was once a great place to work because of the team, compensation, and big technology budget had turned into one of my major professional setbacks. As I lost my center, being a victim was the only thing that I could think about. The grief over my loss was just too great. My confidence waned and I no longer felt competent. I knew my team could see it in how I engaged with them. At that time, I had not learned of Argyris' (1991) work on defensive reasoning and the doom loop. Argyris writes, "there seems to be a universal human tendency to design one's actions consistently according to four basic values:

1. To remain in unilateral control;
2. To maximize "winning" and minimize "losing";
3. To suppress negative feelings; and
4. To be as "rational" as possible—by which people mean defining clear objectives and

evaluating their behavior in terms of whether or not they have achieved them. (p. 8)

The pain was not only emotional, but also physical. It was the first time I had experienced failure and I felt an incredible sense of loss. I had finally come face-to-face with the costs of stress and suffering. As I reflected, I came to see that so much of my self-worth and identity was connected to my role and title, that I felt lost and unvalued as a person!

My ability to lead my team suffered, as I was feeling I was becoming less effective and I did not know what to do. I could no longer make decisions, which was unusual for me, and I started to feel that my team had stopped bringing the hard decisions to me. Something had to change. The pain I felt and the mood of being a victim were sending me deeper and deeper into despair, putting me in a situation that was not sustainable.

### **“Turning Point From Victim to Champion”**

Max De Pree (2008) writes, "From a leader's perspective, the most serious betrayal has to do with thwarting human potential, with quenching the spirit, with failing to deal equitably with each other as human beings" (p. 27). At that point, I felt betrayed, and that the company and its executives had let me down. It was a painful experience and a turning point as a corporate leader. Luckily, I had cultivated mentoring relationships and I started to connect with my mentors for help.

One of them offered, "Moudy. Don't quit now. You need to lean into this change and work to prove them wrong. Leave if you must, but leave on a high note. The best revenge is excellence in everything you do."

He also encouraged me by saying that my open wounds would eventually heal and become "leadership scars," allowing me someday to help others in similar situations. I tossed and turned at night, until I came to grips with what I had to do. I remembered the many challenges

throughout my life that I had lived through. I summoned what little courage I had left, the smallest particle of confidence, and I started working to earn my way back at the company.

Suddenly, the mood that had suppressed me for the previous several months began to lift. I no longer allowed myself to wallow in misery, and I stopped feeling sorry for myself. Rumination was not going to get me anywhere and just served to weaken and paralyze my ability to be a leader.

As I pushed myself to stop feeling like a victim and embraced the situation that was before me, I started to learn new practices. I began to meditate so that I could relax deeply and return to center when I was feeling pushed around. When I completely let go of the past, I started to enjoy my job again. I began to look for opportunities where I could lead new teams and strengthen others around me. My final year in that limited role was filled with great moments where I was able to promote, develop, and mentor others. More people came to my office for coaching than in all previous years combined. Something had changed in me, and something magical happened: the less concerned I was about myself, the more effective I was at helping those around me. My narrative about myself, my situation and the company had also changed. I began to create a different context and a clear purpose of what I should be doing.

About two years after the darkest moment in my career, I left that company for a new, more senior role. I remember the great feeling when a few executives called to persuade me to stay. Although I was offered more money, my old title back, and even greater responsibilities, I thanked them, but left with my dignity and integrity intact. It was important that I was the one declining their offers.

The leadership scars are still visible, but having gone through this experience gave me a new perspective on the cost of being a victim. I learned many lessons and I have become more

attuned to organizational dynamics. I learned that developing mastery on how to engage in “crucial conversations” (Patterson, Grenny, Switzler, & McMillan, 2012) is paramount when operating at the higher levels of organizations.

Fast forward to a more recent event, when I was coaching one of my direct reports, who recently joined my new organization. Because of the scars I carry with me, I found myself more authentic, transparent, and able empathize with his current situation of losing confidence due to poor performance as a technology director. I can say that I was able to connect and communicate with him at a deeper relational level because of my own experience.

Bennis and Thomas (2002) use the term *crucible moments*, which are

experiences that shape leaders... [named] after the vessels medieval alchemists used in their attempts to turn base metals into gold... The crucible experience was a trial and a test, a point of deep self-reflection that forced them to question who they were and what mattered to them. It required them to examine their values, question their assumptions, hone their judgment. And, invariably, they emerged from the crucible stronger and more sure of themselves and their purpose. (p. 3)

Although in this context, because I am the person implementing the change, I am more careful and respectful of those around me who will be most affected by the change. I am also more fully aware of when I fall into the mood of victim and I am cognizant about getting myself into a different mood, so as to not fall back into a helpless situation.

The stories I have shared are personal and embarrassing to reveal, but unfortunately, it is not uncommon (Gabriel, 2005). Many of my technology executive peers carry similar stories of hurt and suffering. Many tell me they felt used and were quickly dismissed when the organization had no need for them. Some were not as fortunate as me, in that they did not have a choice, but were simply asked to leave their companies. Gabriel (2010), who has studied narratives in organizations writes, “people use stories and narratives in many different ways: to make sense of their daily experiences, to promote their points of view and neutralize others... to

deal with the pain and anxiety they experience” (p. 154). The impact of leadership change is great and painful for the individual. However, I have observed that the impact does not stop there. It ripples into other areas of the organization. Middle managers and their employees are often negatively affected, because with new leadership comes new expectations and often changes in direction and strategy. From an employee’s perspective it can often feel like the technology organization is making very little progress, because of the continual shifts. Most often, I see the new leader rolling back whatever changes were implemented previously.

The story I shared is what Gabriel (1991b) refers to as a “tragic story.” Even now, as I reflect on my writing about this experience, I resonate with what Gabriel (1991b) says about the primary function of these types of narratives: “by interpreting the world in terms of a fundamental opposition of good and evil, in which the forces of decency, courage and integrity confront those of malice, duplicity and oppression, such stories provide a cathartic outlet for grief” (p. 434). Although these events occurred several years ago, the cathartic feeling is still present to this day. That is what makes narratives such as this compelling and educational.

### **Current Professional Context**

As I will explore more fully in later chapters, my interpretation of leadership is that it is contextual and situated (Dachler & Hosking, 1995; Hosking, 2011a; Tourish & Barge, 2010). I officially began this study when I reached candidacy in 2013. Around that time, my role was changing as I was making a transition to a new company. My work context was intersecting well with my scholarly pursuit of exploring relational leadership from a social constructionist philosophical lens and the DevOps movement that was showing great promise in the industry. In 2013, an executive search firm contacted me and I began to explore the possibility of moving in a new direction as the head of technology and operations for at a fast-growing technology



company. After several weeks of discussions and reflection, I decided to join the company as the Senior Vice President (SVP) of Operations. The company provides data analytics to prevent and detect fraud while also assessing risk to banks and lenders, as well as a host of other industries that need to manage risk. The CEO, recognizing the importance of technology operations when running an “always on” infrastructure, was looking for a different kind of leader. The company needed an operations strategy for developing a high-performing technology organization, while also increasing corporate innovation and risk-taking. This resembled the challenges in many companies that are pursuing an aggressive growth strategy.

What was required was a DevOps approach that would allow the organization to experience greater levels of stability and service availability, while also creating conditions that support greater innovation and faster product development. Based on the stories and issues that I learned during my first meetings with the executive team, I began to think about how the insights that I had developed while studying and researching the relational leadership approach would work to bring about the changes necessary to revitalize the teams and help me be successful, while delivering the capabilities that the company and the executives needed from my function.

I share my work context and the story of my CEO’s engagement in ensuring his technology department performed and delivered the right outcomes for the business because they demonstrate the importance and critical nature of this work and how it applies to my personal, professional, and overall business results. Working in the information technology industry has provided me with a fulfilling career, but one that has had its share of pain and suffering. The story I shared in the previous section marked a turning point in my career, and was instrumental in shifting my perspective. I went from being inwardly focused, to thinking more broadly about my contribution to the field, and how I wanted to spend the remaining half of my career helping

other leaders create more positive work environments. As Bennis and Biederman (2009) suggests, “effective leaders put words to the formless longings and deeply felt needs of others. They create communities out of words. They tell stories that capture minds and win hearts” (p. 329). One of the main components of my dissertation is to tell my stories in the hopes that my vision of leadership practices for DevOps will help create new and stronger communities out of the words I have gathered in this document.

### **Defining Key Terms**

In this section, I provide a brief description of some of the key terms that will be used throughout my inquiry. The definitions are meant to create a common framework of understanding. Over the next several chapters, I will explore these constructs in greater detail.

**Social Construction.** Social Construction can be described as a philosophical perspective, or meta-theory, that suggests reality itself, or at least our knowledge of it, is wholly or in part the product of our own actions and our social interactions with others. Kuhn (1970), who is one the most cited thinkers on this subject, unknowingly created an opening for social science researchers to challenge the mainstream scientific research method. He provided a new approach to understanding and explaining scientific revolutions. He was curious about how researchers made scientific progress, and challenged the common view that knowledge is cumulative and builds upon itself like building blocks. In an indirect way, he demonstrated how paradigms were not merely the outcome of accumulation of knowledge, but rather a shift and reconstruction of prior knowledge.

**Relational leadership.** Constructionist scholars are ontologically and epistemologically grounded in the notion that our social reality is co-constructed in relationship and in language and meaning-making that is co-created in relationally. The constructionist view of relational

leadership is one of interdependence, embeddedness, and contextualized interactions (Hosking, 2011b). In that sense, the mode of analysis is different. Individuals are constituted from, or are the derivatives of the relationships, rather than the other way around. Cunliffe and Eriksen (2011) describe an intersubjective view of relational leadership as having “four main conceptual threads... leadership [1] is a way of being-in-the-world; [2] encompasses working out, dialogically, what is meaningful with others; [3] means recognizing that working through differences is inherently a moral responsibility; and [4] involves practical wisdom” (p. 1433).

**DevOps.** DevOps is a recent phenomenon in technology organizations. The term refers to Development plus Operations, or DevOps. The primary idea behind DevOps is that by the two departments working more closely together, and by integrating their processes from the beginning of the development process lifecycle, better outcomes are the result. Some of the benefits of DevOps that have been reported include faster time to market, Agile development, better teamwork, higher quality software, and improved operational support of products launched (Hüttermann, 2012; Roebuck, 2012).

### **Statement of the Problem**

**Dying cows in information technology management.** Running a successful and enduring business today is vastly different from earlier times, before the rise and ubiquity of the Internet. Four major forces have become the hallmark of our postmodern and post-industrial society: (1) uncertainty produced by globalization; (2) complexity and the rapid pace of technology; (3) changes in macro- and micro-economics; and, (4) changing demographics in a highly connected world. Those forces pose a significant challenge for business leaders to the practice of leadership (Barge, 2004; Hitt, Keats, & DeMarie, 1998; Rost, 1993). Hitt (1998) writes, “We are on the precipice of an epoch” (p. 218). For instance, the need to continually lead

on innovation is no longer a luxury, but rather the difference between surviving another year, and facing an organizational existential threat (Bettis & Hitt, 1995). Companies like Kodak, The Borders Group, and, more recently, Blockbuster—all considered industry giants—have filed for bankruptcy protection. Those businesses failed to evolve through innovation to keep pace with competitors in post-industrial society. Business failures can be viewed from multiple perspectives. While one can offer various nuanced interpretations, I believe they are rooted largely in the process of leadership and followership (Rost, 1993; T. Thomas, Schermerhorn, & Dienhart, 2004; Wheatley, 1997). How can a new conception of relational leadership for DevOps practices provide some new possibilities for being in this post-PC era, where technology plays such a fundamental role in most businesses?

Vaill (1996) captured the challenge of and predicted the current environment and experience of managerial leaders when he coined the term, “permanent white water”, which he described as “events that are surprising, novel, messy, costly, and unpreventable” (p.14). Drucker (1998b) also noted the major shift in how the work in organizations has changed from manufacturing to knowledge:

Knowledge makes resources mobile. Knowledge workers, unlike manual workers in manufacturing, own the means of production: They carry that knowledge in their heads and can therefore take it with them... more and more of the critical work force and the most highly paid part of it will increasingly consist of people who cannot be ‘managed’ in the traditional sense of the word. (p. ix)

Vaill (1996) made the case that managers are moving into a world that is less predictable and opaque. On the other hand, the nature of work has shifted toward knowledge workers, which implies that traditional management—where mostly men try to control and predict their environments—is losing its original (real or imagined) potency (Snowden & Boone, 2007; Wheatley, 1997). That means how we relate to one another as work colleagues, needs to change in order to adapt to the seismic shifts in who has the knowledge, creativity, and imagination.

Rost (1993), provides an excellent summary regarding the major shift in thinking, and exposes the dying cows in management.

The leadership narratives may have served their purposes since the 1930s in reflecting the industrial paradigm, but they are no longer acceptable as our understanding of leadership is transformed in the twenty-first century to reflect a postindustrial paradigm. Leadership scholars need to develop a new leadership narrative with revised myths and rituals that fit the postindustrial paradigm. And practitioners of leadership need to adopt postindustrial leadership models that help them make sense of what they do as leaders and followers in the postmodern world of the twenty-first century. Only with these transformed leadership models in their minds will they be able to develop the skills—the practical ways of doing leadership—that are necessary to help make the future work. (p. 12)

The dying cows in IT today are managers who are struggling to manage, and employees who are suffering while struggling to support and maintain ever-increasing numbers of systems. There was a time, before the Internet boom and the post-PC era—which refers to the rise in mobile device technology and applications—that IT management and systems administration were characterized by silos of disciplines and most of the work was performed manually by the administrators. Technology organizations tended to be very hierarchical and communication between teams and departments was tightly controlled by a few managers. Information flow was always on a need-to-know basis (Behr, Kim, & Spafford, 2005; Kim, Behr, & Spafford, 2013). With the rise of rich Internet applications and the “cloud”, the number of servers and systems grew exponentially. That has proved problematic for the old way of running technology operations. Also, due to the intense business competition on the Internet, there arose a need to innovate faster and release new software code onto the infrastructure at a rapid pace. For example, traditional types of businesses release code to the infrastructure about three to four times per year. For Internet companies, it is not unusual to release new code 10 times in a single day, every day. All of this new code equates to user features and enhancements, which often translates into more revenue and happier customers.

The cows are dying! IT staff work long hours and often late into the night. They are prime candidates for “burnout.” IT managers are stressed as well, because they simply can no longer use the existing management methods of command and control to run IT effectively (Hetland, Sandal, & Johnsen, 2007; Maslach & Leiter, 2008). All of that equates to businesses losing the capacity to compete and innovate, which leads to fewer customers, lower revenues, and lower profits. It has become very clear to me in the past few years that as more companies rely on core technologies to deliver their services, they will not be able to survive if their IT cannot keep up with the demands of the business and the changing marketplace. In technology jargon we say, “That model can’t scale.” And a business that can’t scale, is a business that is in decline (Black & Lynch, 2001). Uhl-Bien and Ospina’s (2012) words ring true for me, “The incipient development of the relational turn in the leadership scholarship lags behind the demand for relational solutions in the world of practice. There is a hunger to find novel ways to respond to organizing challenges” (p. xxi).

The problem is, due to significant market pressures, companies have to be able to do two things really well: create new offerings rapidly and continuously and deliver an always-on service, which means protecting the core while including a rapid pace of change (C. M. Christensen, 2011). Most technology departments were built around stability, predictable operational service levels, and keeping the systems running 24/7. The pace of change in the post-PC era has applied a tremendous amount of pressure on both the leadership and IT employees to do things differently.

The existing ways of running IT are not sufficient—they are too brittle—for today’s business context. That includes all of the key domains in an IT organization: people and managers, processes and workflow, and technology and infrastructure. Managers and executives

are struggling to find ways to move quickly, while also keeping production environments operational and available. As I began to experience that same pressure, stress, and suffering, I wanted to see if there was another way to lead. The traditional industrial model of leadership is becoming obsolete and new insights are appearing that have the potential for solving this big, complex problem.

**Dead Cows in traditional management.** Another issue that has become clear to me over the past several years is that current approaches to management and leadership have significant flaws (Barkema & Mannix, 2002; Bettis & Hitt, 1995; Rost, 1993). The positivist Cartesian philosophy that provides the foundation for current leadership approaches is unable to support the new innovations and the new ways that managers need to engage with knowledge workers. Drucker (1998a) and others predicted the challenge of the 21st century:

As we advance deeper in the knowledge economy, the basic assumptions underlining much of what is taught and practiced in the name of management are hopelessly out of date...Most of our assumptions about business, technology and organization are at least 50 years old. They have outlived their time. (p. 162)

Unfortunately, most business schools in the United States are still using the same tired curriculum of a generation ago, which leads to the same ideas and practices recycled to be sold as new popular business management books (Cunliffe, 2009b; Gabriel, 2005; Tourish & Barge 2010).

A new approach has to be constructed based on technology innovation and leadership innovation. New ways of thinking more consistent with solving the problems of today's dying cows. Given the problems in IT, and the multitude of breakdowns that my colleagues and I have experienced, I believe this is a space ripe for new thinking and a major paradigmatic shift (Kuhn, 1996). The new DevOps model of technology management is far more relational than previous ones and requires leaders to exhibit new ways of being. However, the current DevOps practices

are not informed by any leadership theories. Instead, we have a set of disjointed methods that are evolving without a coherent theory.

### **Aim of This Research**

Through this research project, I aim to develop a set of practices and principles informed by my own professional experience: The practitioner's knowledge (Jarvis, 1999) and the theoretical foundations of social construction and relational leadership theorizing, combined with DevOps practices, can lead to a better work environment. In sum, the problem is related to the pressures of the macro environment on individual companies, where IT is expected to constantly and perfectly deliver rapid innovation, speed of execution, and a highly secure production environment, that is "always on" where nothing can ever go down or break. This is the disorienting dilemma (Mezirow, 1981) of our time for technology executives living in the early 21st century.

### **Assumptions and Claims**

One of my key underlying assumptions is conventional leadership theories and approaches no longer seem to work effectively (Fletcher, 2004; Meindl, 1995; Osborn, Hunt, & Jauch, 2002; Raelin, 2003; Rost, 1993). Said another way, the world is changing too fast for conventional theories to be as effective as they once were. Quinn (2004) writes, "Management and leadership books are naturally preoccupied with the search for behaviors, tools, techniques, and practices that can be exported and imitated elsewhere. It may be that they are telling us about the wrong thing" (p. 4). Many of the current "conventional" leadership theories have their roots in the early part of the 20th century (Northouse, 2012). These conventional theories about management and what it means to be a leader become the "commonsense" way of doing things.



However, the computing revolution has introduced many changes at an accelerated rate. The industrial revolution was based on machinery that helped increase the total output of the workers in the factory. The focus was on efficiency and speed of production. This meant people began to think like the machines that helped them do their jobs. When everything became computerized, we transitioned from a labor-based economy to a knowledge-based digital economy. Furthermore, since many leaders are prone to follow conventional wisdom of a passing era as a “safe” leadership decision, we are reaching a point where yesterday’s “safe” leadership philosophy, principles, and practices are no longer effective and must be replaced in order for technology companies to remain competitive.

Whereas changes in the marketplace were relatively slow and stable before the computer and Internet revolution, today the world is changing at a rapid pace. No single leader, regardless of intelligence has enough knowledge to control, predict, and dictate changes to their organization and followers. Leadership scholars call this postmodern era the “postheroic” age (Crevani, Lindgren, & Packendorff, 2007; Dachler, 2010; Fletcher, 2004). Just as in Pasteur’s time, the current modes of management are not enabling managers to keep up. This was one of the main reasons that I began the journey that has led me to constructionist theories and the specific perspective on relational leadership (Crevani, Lindgren, & Packendorff, 2010; Cunliffe & Eriksen, 2011; Hosking, Dachler, & Gergen, 1995; Uhl-Bien & Ospina, 2012). A constructionist approach is not the solution to every problem. But I do think its interpretative stance provides a more flexible framework for thinking and being that is more powerful than conventional leadership theories, which were mostly developed with an industrial mindset (Ospina & Sorenson, 2006).

Another key assumption is that philosophical thinking can have a profound impact on the everyday taken-for-granted business life (Cunliffe, 2009a; Ford & Harding, 2007; Grint, 2007). Yet the predominant perception is that philosophical thinking is best left for academics and armchair philosophers. “Surely they have the time to deal with such matters, but we in the business world have more pressing challenges... we are too busy to even think,” is the common sentiment from my colleagues. I mean philosophical thinking in a sense larger than a study of the philosophical schools of thought throughout the ages. Cunliffe (2009b) describes philosophical thinking this way, “A process of thinking more critically and reflexively about ourselves, our actions, and the situations we find ourselves in” (p. 88). My claim is very busy managers and leaders who are facing numerous organizational challenges, uncertainty, and complexity require new philosophical ways of thinking and observing their world, so they can develop more effective ways for making sense of the changing landscape (Gabriel, 2005).

I regularly observe both leaders and followers being pushed to the limit. It feels like each day we experience more complexity, uncertainty, and incompetence because we have not developed the language of the future, but rather are stuck in the language of the past. Our taken-for-granted notions, ideas, and tips and tricks are part of an outdated tradition hindering us from achieving the results we so desperately need. Winograd and Flores (1987) refer to this as a “background of obviousness” that needs to be changed and borrow from Heidegger’s philosophy (Heidegger, Macquarrie, & Robinson, 2008):

The world is encountered as something always already lived in, worked in, and acted upon. World as the background of obviousness is manifest in our everyday dealings as the familiarity that pervades our situation, and every possible utterance presupposes this. (p. 58)

## **Contribution**

Based on my reading of the literature and past dissertations, this inquiry is the first of its kind to combine a social constructionist perspective on relational leadership with the new DevOps approach to running technology organizations. The contribution I aim to make is to provide IT practitioners with a new and theoretically based set of principles and practices for managing people and technology. I want to offer a model that is not based on commonsense or what is perceived as the traditional approach to management. The criteria for adopting a particular principle or practice will be based on my research, theoretical understanding, and also my 20 years of experience in technology operations and management. As I have applied new practices in my own work context, I have been diligent to reflect on my experience and to take field notes along the way (Jarvis, 1992, 1999). In addition, Schon (1983) suggested that experts in professions, such as doctors, lawyers, nurses, and technologists, are reflective practitioners that utilize their experience as a basis for observing, assessing, revising, and refining existing theories of action to develop more effective action.

By doing this work, I hope that alternative ways of management are pursued by others for the purpose of creating more fulfilling places of work, where people feel they can become and be strong contributors. In a real sense, relational leadership is about allowing others to fully express themselves and creating opportunities for them to become their best selves. While I do not want to formulate a “how-to guide” as part of my contribution, I do intend to provide the necessary narratives, a compelling philosophical and theoretical story, and the background of my thinking so that managers and leaders can generate their own expressions of relational leadership appropriate for their respective contexts and situations. In other words, my purpose is less prescriptive and procedural as that would be a positivistic approach. Alvesson (1996) has written

about the strong dissatisfaction with a positivist approach with its “assumptions and methods emphasizing ideals such as objectivity, neutrality, procedure, technique, quantification, replicability, generalization, discovery of laws” (p. 455). A mechanistic entity-based approach attempts to turn the complex contextual experience of leadership into specific traits, characteristics, and tips and tricks as found in many popular business books. Even as I continue to research, learn and practice, I recognize a positivistic linear approach to leadership falls short of being effective in real-world contexts (Kezar, 2004a).

There are no easy answers, but by relying on a strong philosophical foundation, connecting leadership theorizing with a biological understanding, and by focusing on language, a new framework will emerge to enlighten practitioners and give them more meaning and purpose in their work. That should translate into a more productive and happier workplace. Through a qualitative theoretical approach and a scholarly personal narrative (SPN) writing style (Nash, 2004), this research explores constructionist concepts of relational leadership, language, and practices that enable leadership actors to become agents of change in their technology departments. The main question I am deeply curious about is the following: How can a new conception of relational leadership and DevOps practices provide some new possibilities for being in this post PC-era, where technology plays such a fundamental role in most businesses?

I am conducting this research because, as a practitioner working in IT, I have experienced firsthand the breakdowns and suffering that occur when organizations are managed poorly—where sincere managers apply obsolete practices to solve today’s technology challenges. Rajeev Vasuedva, the current CEO of Egon Zehnder a multinational executive search firm, recently suggested this trend is happening on a global scale, and noted the shift from hard skills to soft (relational) skills. In an interview he said:

What we have seen in the last five-seven years is that the world has changed completely. It has become much more uncertain and the context has become much more challenging, and I think it has much greater degree of volatility. So, I think, what worked 7-10 years ago in terms of leadership or styles of leadership, that's under a huge evolution right now. What worked in the past may not necessarily work in the future. (Raj, 2014, para. 5)

This work is deeply meaningful to me, both professionally and as an intellectual pursuit because I have an intention to be a good leadership actor, developing practices that I hope will help create more humane workplaces, where teams can flourish, learn and grow, while delivering impressive business outcomes and enterprise value. Through this research, I hope to generate new insights that will help the many people feeling stuck in a traditional technology organization. After spending approximately 18 years in corporate America, I am left with the nagging feeling that there must be a better approach than the “Amoeba theory of management,” (Flaherty, 2011) where leaders use sugar (reward) to entice or a needle (punishment or fear) to prick people into submission. The larger context of this research is significant changes taking place inside technology departments today. The rise of the Internet, the increasing complexity introduced by thousands of new virtualized systems, and the need to constantly innovate and improve has created a crisis for the people responsible for maintaining and operating complex technology infrastructures. I will be addressing why DevOps is an important movement and the urgency for technology leaders to learn to embrace relational leadership practices in Chapter II.

### **Research Question**

At the heart of my inquiry is a question I have been thinking and writing about for some time now. It's a question of being in the context of IT management. The over-arching research question that guides my dissertation is: How can a new conception of relational leadership and DevOps practices provide some new possibilities for being in this new age, where technology plays such a fundamental role in most businesses?

Shotter and Cunliffe (2002) suggest, “The basic practical-moral problem in life is not what to do, but what kind of person to be” (p. 20). My aim is to explore the possibility that social constructionist theorizing and practices represent better interpretations for living in our post-industrial time. What does it mean to be a leader who is informed by relational leadership practices and thinking? By working to develop answers to these complex questions, the secondary answers about “what to do” will become clearer. Thus, a key focus of this inquiry is on being a relational leader so that new ways of being, knowing, and doing appear, thereby transforming a technology organization. Transferability is an important dimension as well. I want to contextualize the ideas and practice them in my work context, as well as teach others of the possibility of being different leaders and organizational members.

This is a practice-based theoretical dissertation that attempts to connect my lived experience, theoretical knowledge, philosophy, and practical knowledge in the domain of IT management and the evolving organizational concept of DevOps. I chose this approach because I wanted to explore the question of relational leadership from a broad range of angles—a decidedly interdisciplinary perspective to collect, analyze, and synthesize different ideas from various schools of thought as a way to discover a compelling way to lead technology organizations in a post-PC era and to subsequently offer some suggestions that could shift the IT culture that embraces innovation, speed, agility, while also improving availability and higher service quality. Given the advances in technology and new leadership approaches, business can accelerate their strategy without the need to sacrifice their employee’s quality of life.

### **“A Story About Cabbages”**

I end this chapter with an important Sufi Story that Maturana and Varela (1987) share at the end of their wonderful book *The Tree of Knowledge*. This story is a good reminder that as

we seek to reach new levels of understanding and new possibilities for improving our corporate work environments, we need to be aware of ideas and assumptions that could be holding us back from changing (Kegan & Lahey, 2009).

A story is told of an island somewhere and its inhabitants. The people longed to move to another land where they could have a healthier and better life. The problem was that the practical arts of swimming and sailing had never been developed—or may have been lost long before. For that reason, there were some people who simply refused to think of alternatives to life on the island, whereas others intended to seek a solution to their problems locally, without any thought of crossing the waters. From time to time, some islanders reinvented the arts of swimming and sailing. Also from time to time a student would come up to them, and the following exchange would take place:

“I want to swim to another land.”

“For that you have to learn how to swim. Are you ready to learn?”

“Yes, but I want to take with me my ton of cabbages.”

“What cabbages?”

“The food I’ll need on the other side or wherever it is.”

“But what if there’s food on the other side?”

“I don’t know what you mean. I’m not sure. I have to bring my cabbages with me.”

“But you won’t be able to swim with a ton of cabbages. It’s too much weight.”

“Then I can’t learn how to swim. You call my cabbages weight. I call them my basic food.”

“Suppose this were an allegory and, instead of talking about cabbages we talked about fixed ideas, presuppositions, or certainties?”

“Hummm... I’m going to bring my cabbages to someone who understands my needs.”

(Maturana & Varela, 1987, pp. 249-250)

I end with the story about cabbages as an eloquent reminder that in order to move towards new spaces of learning and discovery, one has to practice being reflexive so as to not miss the opportunities and possibilities for moving to a “new land.” I invite the reader to join me on this personal learning journey without being too weighed down or blocked by a certainty of the way the world is supposed to be.

### **Dissertation Overview**

In Chapter II, I offer an overview of the DevOps movement and explain the background and the challenges that have existed between the operations and the engineering tribes. After exploring the challenges of running a company with multiple silos, I explain the primary ways that DevOps has been able to improve current technology management practices.

The purpose of Chapter III is to reflect on the current state of technology and provide a historical personal narrative and perspective for understanding how technology has influenced businesses and, more specifically, the IT operations groups that are tasked with maintaining their IT infrastructure. My passion for this research is fueled by the desire to investigate new practices and ways of being that constitute a better way to lead technology organizations.

In Chapter IV I provide an explanation for my methodology and why I chose to use the Scholarly Personal Narrative (SPN) to conduct my theoretical study. Key issues related to SPN are discussed which include the SPN process of pre-search, me-search, re-search, and we-search. In this chapter I also address issues such as universalizability versus replicability of the type of qualitative theoretical study that I am conducting.



In Chapter V, I explore social construction as a meta-theory, and as an overarching lens for my inquiry into relational leadership and technology management. In addition, I provide the foundation of social constructionism, while comparing and contrasting it with the more traditional views of knowledge and reality. After providing several ways of defining social construction, I proceed to describe the strengths, limitations, and critiques. As a scholarly-practitioner, I continue to weave a personal narrative by sharing my experience of learning about and working in a social construction context in my professional field.

Chapter VI reviews the relational leadership literature. This is part of the “re-search” component of Nash’s SPN methodology. In addition to conducting an exhaustive view of the literature over the past 30 years, I provide a broad view of the relational leadership field and explore different leadership perspectives and make the assumptions more explicit. This exposes the researcher’s ontological and epistemological stances, where they are oftentimes implicit or not well articulated in the literature.

The purpose of Chapter VII is to assemble inquiry into relational leadership and highlight some important practices that have helped me be a better leadership actor and work to help deliver better business outcomes as well as help design a more humane place to work that fits within the larger corporate culture. These leadership practices which include confluence, a dialogical practice, learning-as-a way of being (Vaill, 1996), as well as reflexivity and being a relational leader who honors their word, which is integrity.

In the final chapter, I summarize the territory that I have covered and make some suggestions on how this study can be expanded and the implications for change on a broader scale, outside of the context of DevOps and technology management. The premise for DevOps has been to breakdown the silos that block effective communications and relationships between

teams. In Chapter VIII I suggest there still remains big silos in academia that block scholars from entering into conversations outside their comfortable known territory, what Uhl-Bien and Ospina (2012) lament as “the lack of openness to methodological pluralism and limited dialogue across perspectives” (p. xxii).

## Chapter II: An Overview of the DevOps Movement

We are in the middle of a dramatic and broad technological and economic shift in which software companies are poised to take over large swathes of the economy.

(Andreessen, 2011, para. 6).

The purpose of this chapter is to demonstrate the reasons why a new relational leadership approach in technology management aligns and supports the DevOps movement. I also intend to explore the philosophical underpinnings and specific values of the DevOps movement that have propelled it from being a small fringe online discussion with a simple hashtag of #DevOps to a movement large enough that even the biggest technology companies, including IBM, Facebook, Google and many others, are taking notice and promoting it as the new way of managing the complex technology infrastructure. This chapter on DevOps is fundamental to understanding the context of technology management in the post-PC era and is perhaps one of the more technical chapters, where I offer a broad overview and the many dimensions and distinctions of DevOps.

Because I am using the Scholarly Personal Narrative (SPN) approach, I begin the chapter with a personal narrative. The remainder of the chapter has been divided into three primary sections. The first section explores the convergence of three foundational movements that are tightly linked to DevOps. These include the Agile Software development methodology. The second is focused on the new technology capabilities generally referred to as cloud computing. The third movement gaining significant momentum in the business world is Lean Startup.

In section two I summarize the three most important key performance indicators (KPI) of what I consider to be the promise of DevOps:

1. Deployment Frequencies and Speed
2. Improved Failure Rates
3. Faster Recovery Time

In section three, I write about the “CAMS of DevOps”. It is a short acronym for Culture, Automation, Measurement and Sharing. CAMS is a helpful framework and often mentioned to demonstrate DevOps is not just one specific thing (i.e. implementing a tool), but a broader approach for delivering technology services. CAMS is also about and improving collaboration, communication and coordination among different functions in the organization.

Keeping with the dying cows theme that I described in the first chapter, I was experiencing the dying cows in IT before I learned about the DevOps. The following story is one of many that shows why DevOps is needed in most IT and engineering departments.

### **“Discovering DevOps and Influence of Leadership”**

In the mid-2000s, I joined a software company based in Silicon Valley that was in the midst of reinventing itself from a Compact Disc (CD) based company to a software and services company. That transformation from media to online software meant the company needed to shift more of its offerings to run on the Internet, and run 24/7 at scale to support millions of customers and small businesses. Each of the lines of business were required to “retool” and develop strategies and new product innovation that would help propel the company forward, ahead of the many smaller startups that were trying to gain their market share. By that time, the company had become the “800 pound gorilla” in the Valley. Part of the heritage of the business was to fight off the larger monopolistic companies. In the 1990s, the company was successful in fending off multiple attacks by Microsoft. This time around, we were the behemoth, trying to defend our turf from an onslaught of smaller companies that were doing lots of things very well because they did not have the drag associated with software that was written ten to twelve years earlier. When it comes to innovation and rapid software development, older companies are at a significant disadvantage because they are restricted by the old technology in their data centers. The

challenge of dealing with old legacy code, while trying to add new features to fragile hardware and software was slowing the company down and raised the risks of moving services to the cloud.

From a technology operations perspective, I was part of a leadership team hired to help stabilize the infrastructure, while also elevating the necessary investments to power innovation. The problem was that our IT delivery system was also following legacy and outdated service models. The IT functions still were following multiple levels of waterfall project management methodology. What this meant is that the software development lifecycle followed a waterfall method (Wysocki, 2010). The process started with requirements, then to development of the code, to testing, quality assurance, and then ready for production. When the code was getting ready to be deployed to production, it also followed a new waterfall. First it was the data center facilities, then systems, network, and finally the code was ready to be released. This process could easily take six months from beginning to end. While this was happening, much smaller competitors were doing the same work, but 80% faster. The business leaders were frustrated at the pace of innovation and getting new products or updates out to the market fast enough.

We started by making some incremental improvements. For example, we purchased more hardware than what was needed so that we could cut out the six to eight weeks of the facilities work, which included power, racking the systems and running all of the required cables. We also started to use virtualization as a technology that helped us increase the speed of delivering the systems once the physical servers were installed. However, these improvements were reducing time from the overall process, and the changes were too small and incremental to have an impact on the total outcome for the business. The organization was still very much siloed by the specific technical disciplines, rather than organized to deliver a complete service. This often resulted in

having something produced very fast by one team, yet it waited in another team's queue for several weeks without being worked on. So while one team might say, "We delivered our piece on time, what's the problem." The client, in this case the developer, would still be waiting for something to be completed by another team inside of the IT organization.

At some point the business became frustrated at the slow progress that IT was making towards helping the business quickly design, test, and launch new products. A lack of confidence began to settle on the technology organization, and then leadership changes began to get announced. This was the first time I was able to see clearly a view from the top. The trend of changing leaders continued and regardless of the leader appointed to the various roles in technology management, the same pattern happened over and over (see my narrative in Chapter I regarding changes in CIO and leadership). It has taken me several years to recognize that because the underlying structural systems of the organization rarely changed, it rarely made a meaningful difference about who was in charge. I also began to observe how an IT organization can either help accelerate progress, or in many cases slow down the innovation and product development of an entire company. Around that same time in 2007, the role of IT was also beginning to change and shift. Much of that change was due to the large number of technology startups that were using technology in new and different ways.

Fast forward to a few years later. This time, I was a member of a different management team. This team was aware of the urgent need to help the business move fast, innovate, and release products faster than the competition. The company had a history and culture of attracting Type A managers (Bass & Bass, 2008). Bass and Bass describe Type A managers by describing their attributes as "hard-driving competitiveness... sense of urgency is accompanied by restlessness, and an overwhelming need to assert control over whatever happens" (p.157). This

anecdote was actually supported by informal “colors” assessment of personalities and found that all were “red” which indicated behaviors such as highly driven, results focused, and moved around with a sense of urgency. Unlike the previous management team, this new technology management team fully understood the importance of an agile technology organization. My team was at the core of the transformation and the focus, because I was responsible for most of the critical technology infrastructure, such as servers (computers), storage, data centers, and the network. Although we knew we needed an agile infrastructure, and we hired bright people with the right skills, we still struggled to make meaningful long-term progress.

I eventually left that organization for a host of reasons, but one of the main reasons was our management culture was severely impacting the ability of the engineers and expert technologists to make decisions and execute on projects effectively. What was different about this company is we had engineers who wanted to run technology operations using the DevOps approach, but were hindered by the management. A typical scenario that played out several times looked like this:

IT Expert: I would like to recommend technology [X] . I have seen it work before very well and the rest of the team agrees that we should buy it and install it as soon as possible. This could be the first step in automating our environment and giving us more free time to innovate.

IT Manager: I have not heard of this technology before. When I was an engineer myself, we used technology Y. Please go buy that one and implement it this quarter.

IT Expert: Well... I checked out the one you recommended, but it’s about ten years old. There are new improvements and innovations that are not only cheaper, but are actually better and fit our environment here. The team really wants to stick

with the recommendation we already made. I also asked around externally and more DevOps shops are using this technology and approach.

IT Manager: (becoming angry, and raising his voice) OK. I am done talking about this. If you guys don't like my recommendation, then maybe we can just not buy anything and have you guys do the work manually. I don't care if you guys don't like it or if you think the other one is better. You still have twelve weeks to install it, so I suggest you start now!

IT Expert: Okay. You're the boss. We will do this, but the team also believes that twelve weeks is not sufficient to learn the solution and install it in the timeframe you asked for. We will do our best, but the team is not happy.

IT Manager: This conversation is over.

I experienced these episodes play out for several years, and realized having the knowledge we needed to change and become more agile for the businesses, and an even stronger desire to make IT great, was not enough to shift the organization. The leadership culture, the way the IT managers behaved and role modeled the senior leader in the department, was stifling innovation and the team's morale. As I was making progress in my doctoral education, I experienced a "disorienting dilemma" (Mezirow, 1981). I wanted to be a part of a forward-looking, progressive, technology organization that was perceived to be a strategic part of the business. Our senior leadership was very good at doing that. But I also wanted my employees to be engaged, empowered, and feel like they had a voice and could guide decisions that impact their work. That was a turning point for me.

Mezirow (1990) describes transformative learning that involves "critical self-reflection, which results in the reformulation of a meaning perspective to allow a more inclusive,



discriminating, and integrative understanding of one’s experience” (p. xvi). My research has offered me an opportunity to study, think, and reflect on my experience as a practitioner in technology management. The connection between relational leadership and DevOps became stronger as I saw breakdowns occurring between IT delivering quality service, managers feeling overwhelmed, or as Kegan (1994) describes it “in over our heads” (p. 372), and, finally, the employee experiencing dissatisfaction at working very hard, but still not feeling like they are able to win or be proud of the work they do. Kim (2014) writes,

We are often trapped in low-trust, command and control cultures that reinforce fear, preventing experimentation and innovation. Over decades, this has led to an “order taking” malaise present throughout our industry—so much so that in IT, we often call the organizations we serve as “the business”—as if we were merely a service provider, instead of a critical part of how value is delivered to customers. (p. 3)

In this chapter, I provide an overview of DevOps and work to connect the narrative between the aims of DevOps as a grass-roots movement and a formulation of relational leadership that aims to create the right leadership climate where DevOps can prosper and grow. This chapter sets the context for the following chapters that explore relational leadership and specific practices for DevOps leaders.

### **DevOps and the Social Construction of Technology**

A number of scholars have explored the link between technology and organizations (Grint & Woolgar, 1997; McLoughlin, 1999). Traditional research that explored the development of technology posited that technology was deterministic. This perspective focuses on how technology determines human behavior, and as some scholars contend, has shaped the story of human history. Humans do not influence technology as much as they are shaped by it. Once a technology is developed, it becomes a force in modifying organizations and structures. On the other hand, a social constructionist perspective of technology looks at the people, the groups of users and explores how the interaction with the technology shapes both the technology and

themselves. As in many studies, there is a continuum of determinism versus agency. Some authors offer a few interesting frames for exploring technology use beyond just development. I will briefly mention these authors and discuss how their frames are related to my study of DevOps.

The social construction of technology (SCOT) can be traced back to the work of Pinch and Bijker's (1987) article, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." In that article they outlined four concepts that were foundation to the social construction of technology.

**Interpretive flexibility.** This concept refers to how a technological artifact is designed and the final outcome is dependent on the social actors. This is to indicate that the outcome of a technology such as the iPad was an outcome of the interpretations and interactions of the specific designers and inventors during that lifecycle of the project. This view is different than a deterministic view that the iPad device was determined from the beginning of the design phase to include the specification of a 9.7 inch screen and with 16 Gigabytes of memory.

**Relevant social group.** The second component that is connected to the first is that the relevant social groups negotiate and construct the technology in the development process. Each social group carries with it its own interpretations and biases that shape how a technology is constructed. Pinch and Bijer (1987) suggest "all members of a certain social group share the same set of meanings, attached to a specific artifact. (p.30). This particular idea is a helpful lens to observe how the DevOps movement is being constructed by a particular relevant social group that is often made of software engineers and IT operations and systems administrators. Much of this innovation is also linked to the Internet generation, which in this context refers to the generation that was going to college in the early 2000s.

**Closure and stabilization.** This process occurs when there are few controversies and most of the major problems have been declared as solved or resolved by the technology solution. One of the examples that come to mind is Microsoft software in the 1990s. In that period, Microsoft was trying to capture as much market share as possible by selling the Office software package as well as email and collaboration solutions. The software was still being developed and refined and the relevant social groups, the IT administrators, were still engaging in a conversation that indicated that software was not “fully baked.” However, by 2005, most of the original software had reached closure and was becoming a stable software platform. The conversation by the practitioners changed to focusing on new mobile features, rather than lament the stability of the product.

**Wider context.** This refers to the broader context. This could be the economic climate, the social and political climate, as well as changes in demographics that lead to changes. Technology is often limited or propelled forward by the wider context. The dot com era in technology was an example of how the wider context helped accelerate many startups. These startups and the many different technologies that were being invented also had an impact on the wider context (e.g., the stock market boom and crash).

### **Why DevOps Will Transform Organizations**

In Chapter I, I developed the idea that management practices eventually become obsolete and are no longer effective to address the current challenges of today. This is of course a general phenomenon that one can observe in many different contexts. For example, there was a time when the military used horses as part of the war machinery. There were a host of skills and ways of being that were required to manage a cavalry. At some point there is an uncomfortable shift,

where the motorized vehicles were introduced and the numbers of troops on horseback are reduced. Today in technology, we are facing a seismic change between traditional IT management practices and the fast-paced environment of Internet-based services (Miller, 2014). As a social constructionist thinker, I see DevOps as a conversation that continues to morph and evolve amongst its practitioners. This conversation is dynamic and is dialogically-responsive to what the practitioners are facing.

### **The World Before DevOps: Warring Tribes**

In the traditional organizational structure, technology work is divided into specific disciplines, which creates silos of small tribes. One tribe is commonly called Technology Operations or “Ops” for short. This group of IT professionals are primarily tasked with keeping the systems up and running 24 hours a day, 7 days per week, and 365 days. Inside of most of the operations groups, there are additional silos composed of specific disciplines that include systems, network, storage, database, and application support. Because this group is accountable for systems uptime and availability, they are laser focused on keeping the systems stable, which means reducing as much change as possible and also making sure that whatever change gets implemented, it is a controlled and well- documented change. One of the main measures of productivity or success in an operations organization is stability and the closer the organization gets to 100% uptime, the more valued they are.

The other large tribe that can be found in most organizations are the software engineers, or also referred to as Developers, or “Dev” for short. This tribe is often rewarded for creating new software features and functionality quickly and under aggressive timelines. From their perspective, they are compensated for introducing as much change as possible, as the key measure of their productivity is releasing new software and features. The engineers rely on IT

for the environments, their PCs, and also for releasing the new code into the production environment, which is restricted to only operations staff. Due to that immense pressure to produce software fast and iterate faster and faster, quality can often suffer and that is when the conflicts between the tribes usually starts.

Engineers complain and lament the slow pace of the operations tribe. “Why does everything take so long? I can do this faster myself” they say to their managers and to the operations tribe. The operations tribe feels like they are victims of having to support “bad” software code that causes them to be woken up in the middle of the night. Supporting and restoring services when things break is the primary role of the operations tribe. The operations tribe often complains about the lack of instrumentation, logging and error handling that was lacking in the software releases. They often say, “Because the app is not smart enough to handle this error, the entire thing crashes and it takes an hour to restart everything.”

As this cycle continues, another issue begins to happen. It’s called “Tech Debt” and it is a phenomenon that happens when the operations team gets stuck troubleshooting and firefighting issues all day long without spending the time and investing in performing the required upgrades and routine maintenance of the systems and infrastructure. The greater the tech debt, the more difficult it becomes to maintain the environment as the systems become more and more fragile with time. Lots of business challenges, good and bad, also contribute to tech debt. For example when a business is growing rapidly, the focus is solely based on supporting the revenue growth at the expense of proper maintenance. There is often the belief it will be addressed at a later date. The same thing occurs during economic downturns or when a company experiences declines in revenue and a loss of customers. Just like financial debt becomes harder and harder to recover from, tech debt is the same. It constricts the entire organization, and often the problem is never

fully addressed until a major disaster or an outage occurs that grabs the attention of the senior executives or the board of directors. Tech debt has also played a role in data breaches, where the right focus and investment in Information Security is deferred until a major public crisis occurs.

From a social constructionist perspective, it is clear that these tribes exist in different linguistic contexts that shape their reality (Shotter, 1993). The wall of confusion in Figure 2.1 illustrates the language barriers that are found between the different tribes in technology management. As I have sat in meetings and heard the groups discuss topics it becomes clear that although we are all speaking English, the language of operations and the language of engineering are different enough that it often leads to confusion and misunderstanding.

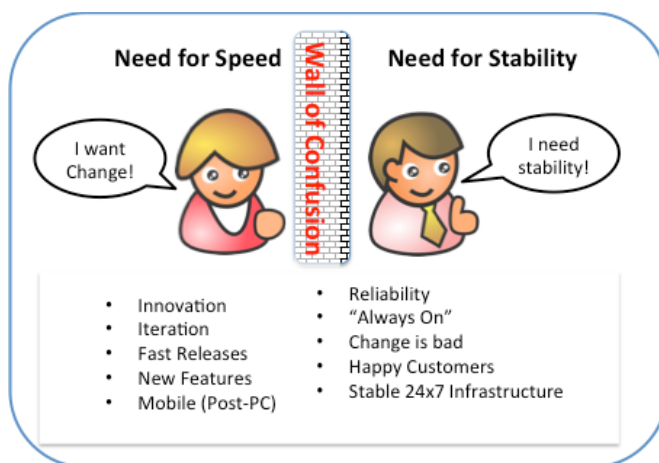


Figure 2.1. Development and operations tribes and the wall of confusion.

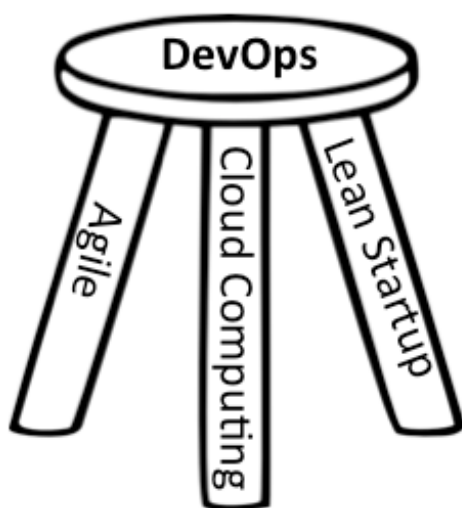
## Background of DevOps

The early founders of the DevOps movement were operations and development professionals (none of them were managers or leaders in the formal authority sense). They were technology professionals trying to figure out new ways of applying certain principles to help create a more agile infrastructure that could better support the faster rate of change that engineers needed, while also creating a more sustainable operational environment that would help reduce

the high burnout of IT workers (see Chapter III's introductory narrative about the common lived experience of technology operations).

DevOps has grown out of several different movements that converged to become what it is today. This section will be an exploration of the underlying assumptions of DevOps. To really understand what people in the DevOps movement are trying to change about their existing companies, one has to first see the major forces that have coalesced to give DevOps its meaning, value, and relevance.

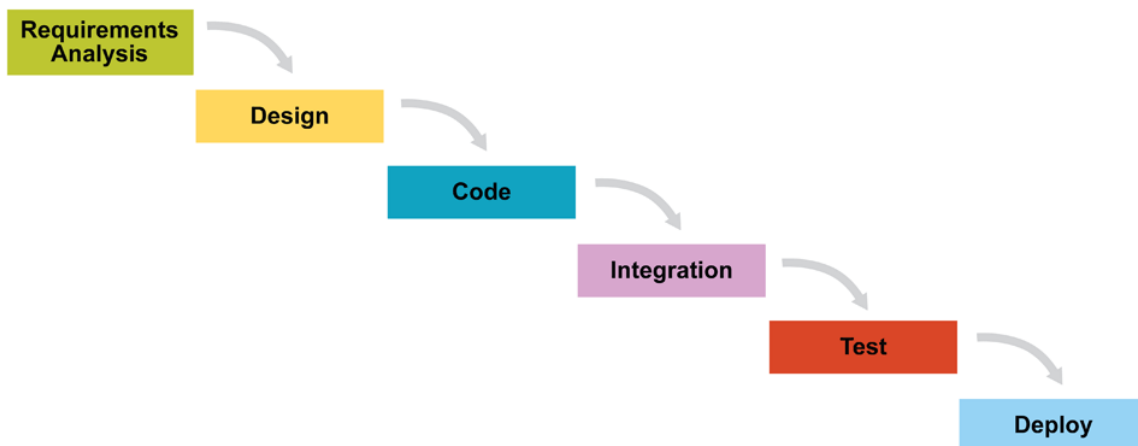
In Figure 2.2, I illustrate the three movements, or sets of conversations, behind most of the work that is taking place in DevOps today. First, I begin with the Agile software development movement (K. S. Rubin, 2012; Sims & Johnson, 2012). Second, I explore the power of cloud computing as an enabling technology and set of capabilities, which allowed Agile to blossom into a more complete development approach and tools. Finally, I close with the Lean Startup movement, which offers a set of business principles that are changing how large and small startups are creating and delivering new products and services (Blank & Dorf, 2012; Ries, 2011).



*Figure 2.2.* The three movements of DevOps.

## Agile Software Development

Agile is a software development approach that gained momentum during the dot.com boom of the late 1990s. Software developers and project managers were realizing that the classic “Waterfall” approach (see Figure 2.3) was not well suited for web-based projects, where speed, agility and flexibility were valued over strict adherence to well documented requirements (Larman, 2004). The Waterfall method (also known as “traditional”) is a project management approach that has been used in many industries, including building construction and large-scale civil engineering projects. Compared to the Agile approach, the waterfall is a rigid step-by-step approach to project management. The assumption is that once a step or phase has been completed within the project, you cannot go backwards. With waterfall, the entire project is planned at the beginning with each phase being given a fixed deadline and a set schedule. Each phase has a distinct goal and a set of deliverables, such as a completed



*Figure 2.3.* Waterfall software development approach.

software module, documentation, or approval to proceed to the next phase. The waterfall model derives its name from the cascading effect from one phase to the other as illustrated in Figure 2.3. Waterfall is a well-documented method, with documentation being produced at every stage



and it is also a very disciplined approach to a project. When the requirements are clear and the work is repeatable, the waterfall model works well. For example, a general contractor that is building ten homes on a lot can use the waterfall method successfully. The land and space are known, the blueprints have been drawn and the process is straightforward. On the other hand, when the requirements are either unknown or vague, and the technology is too new, the waterfall method is not as effective and can actually cause the project to run much slower.

In a defining moment in the software development process, MacCormack, Verganti, and Iansiti (2001) conducted a two-year study to identify the most effective software development method and reported their findings in the following way:

1. “An early release of the evolving product design to customers”
2. “Daily incorporation of new software code and rapid feedback on design changes”
3. “A team with broad-based experience of shipping multiple projects”
4. “Major investments in the design of the product architecture” (p. 76)

After studying 29 projects across 17 companies, including Microsoft, MacCormack et al. (2001) concluded, “The most remarkable finding was that getting a low-functionality version of the product into customer’s hands at the earliest opportunity improves quality dramatically” (p. 79).

Figure 2.4 shows the iterative approach of the Agile method, which is composed of smaller iterative cycles that last a few weeks, so that new learning is incorporated into the next development cycle. That study helped launch the conversation that led to the *Agile Manifesto*, a set of principles that many software and technology teams began to adapt to write better software with fewer bugs and to deliver it faster to the customer.

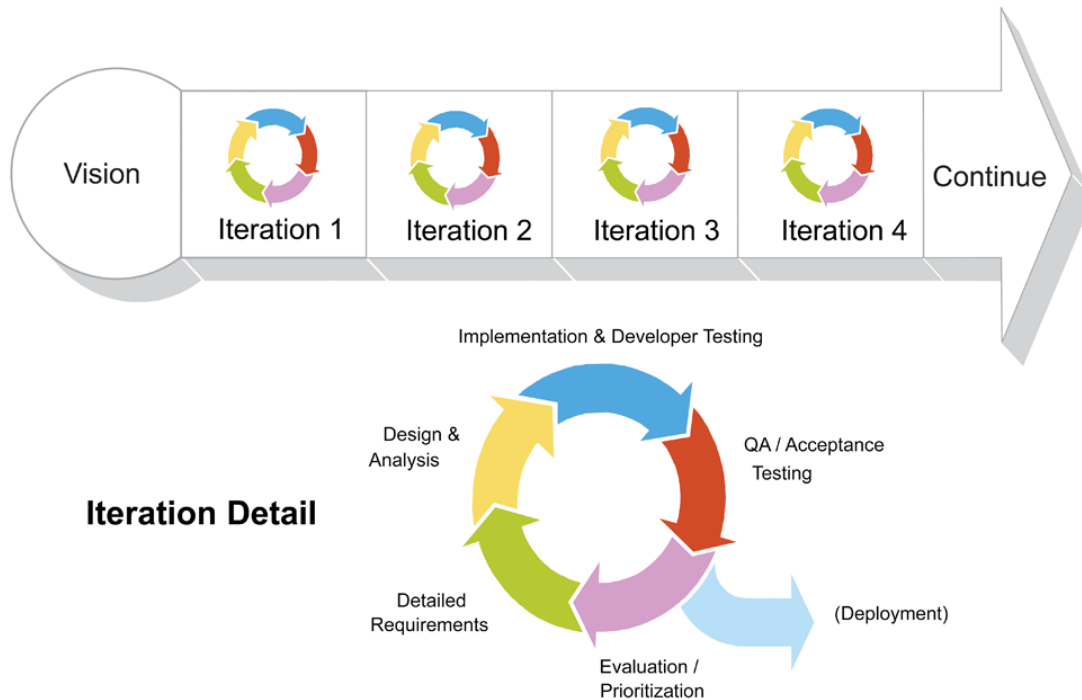


Figure 2.4. Agile software development (iterative process).

## Cloud Computing

The second major trend that coincided with the Agile Software Development is cloud computing. The leader in cloud computing today is Amazon, Inc.'s Amazon Web Services (AWS). In 2006, Amazon launched this new offering, which allowed developers to pay for virtual servers and storage by the hour. What made the offering most compelling was that it did not require IT administrators to provision the services. This was a revolutionary product offering in many ways. First, it allowed anyone to pay for only the resources they needed without making any large capital investment. Secondly, using software and simple command, AWS allowed developers to bypass IT and "order" systems much faster than the traditional way. This meant a developer could build a website and make it available on the Internet in minutes, rather than the traditional six to fifteen weeks. Researchers from University of California at Berkley's Reliable Adaptive Distributed Systems Laboratory write of the power of this computing model:

Developers with innovative ideas for new Internet services no longer require the large capital outlays in hardware to deploy their service or the human expense to operate it. They need not be concerned about over-provisioning for a service whose popularity does not meet their predictions, thus wasting costly resources, or under-provisioning for one that becomes wildly popular, thus missing potential customers and revenue. Moreover, companies with large batch-oriented tasks can get results as quickly as their programs can scale, since using 1,000 servers for one hour costs no more than using one server for 1,000 hours. This elasticity of resources, without paying a premium for large scale, is unprecedented in the history of IT. (Armburst, Fox, & Griffith, 2009, p. 1)

### **Lean Startup Approach**

So far, I have described Agile, the software development approach, and also cloud computing, the technology capabilities that were maturing round the same time. The third area I will focus on is the business approach or a new business development strategy called the Lean Startup (see Figure 2.5). The traditional approach to launching a new product or business followed a linear process, similar to the waterfall model described above. First, a business plan needed to be written down and shared with investors or venture capitalist (VC), then money would be raised, staff hired, and then a product would be developed in “stealth mode” until it was ready to be launched. At that point, perhaps one or two years after the business plan had been written, the entrepreneur would eventually recognize the results of the business idea and its execution. This linear process is fraught with issues and, according to Cusumano (2013), 75% of all new startups fail.

Blank (2013), one of the early proposers of the Lean Startup approach, describes it as:

favor[ing] experimentation over elaborate planning, customer feedback over intuition, and iterative design over traditional ‘big design up front’ development. Although the methodology is just a few years old, its concepts—such as ‘minimum viable product’ and ‘pivoting’—have quickly taken root in the start-up world, and business schools have already begun adapting their curricula to teach them. (p. 2)

Rather than the traditional “build-it-and-they-will-come” approach to launching a new business or product, the Lean Startup begins with a hypothesis of what a customer problem might be. Then the team begins to figure out ways to quickly test the hypothesis with potential

customers at the lowest cost possible. If the hypothesis or assumption is supported by the customers, then a new minimal viable product (MVP) is built and then the process continues. Figure 2.5 shows the Lean Startup development cycle and the way that an MVP is created quickly so that it can be validated by the customer.

There are two key concepts in the Lean Startup: Pivot or Persevere. With each iteration of testing a new hypothesis, there is an opportunity to *pivot*, meaning change course, or *persevere*, continue to make progress. It is easy to see how software development methodology plus cloud computing have made the Lean Startup approach possible. They all also share similar ideas that are connected to just in time and iteration over fixed requirements and linear development. All of these ideas have blended into DevOps, which focuses on speed, agility, better communication and flexibility. It also focuses on automation and taking a small idea and scaling it up.

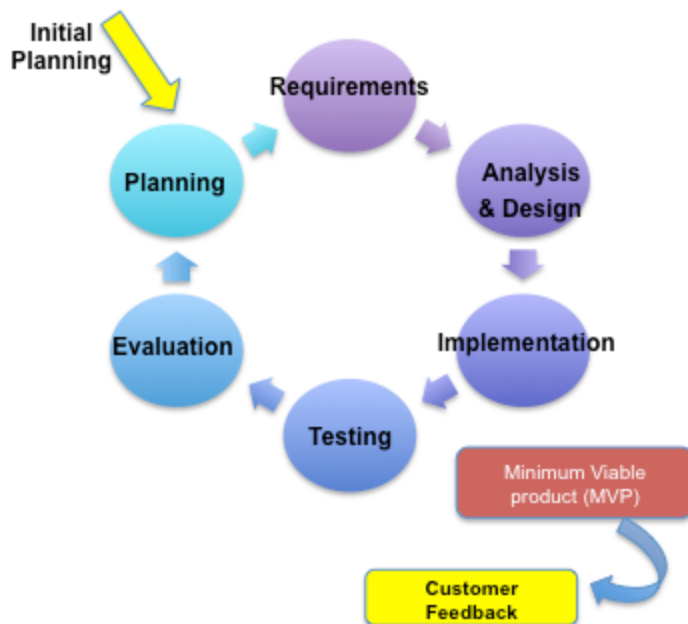


Figure 2.5. The Lean Startup development cycle.

## **Dimensions of DevOps**

At the end of 2012, a survey was conducted by Puppet Labs and IT Revolution Press, two of the leading organizations behind the DevOps movement. This survey was considered to be the largest of its kind with over 4,000 IT Operations professionals, developers, and managers from over 90 countries participating. The authors of the survey summarized the results by suggesting,

accelerating adoption of DevOps practices in IT organizations across companies of all sizes. 63% of those surveyed have implemented DevOps practices. This was a 26% increase in adoption rate since 2011, the first year that survey was conducted. ...Not surprisingly, organizations that have implemented DevOps practices are up to five times more likely to be high-performing than those that have not. In fact, the longer organizations have been using DevOps practices, the better their performance: The best are getting better. (Puppet Labs and IT Revolution Press, 2012, p. 1)

But what exactly are those practices and what are the key characteristics of DevOps? In this section I hope to further clarify why this movement's time has come.

## **Promise of DevOps**

In this section I summarize the three most important key performance indicators of what I consider to be the promise of DevOps. There are many other benefits of following the DevOps approach that include a more collaborative working environment and a healthier culture of inclusion, knowledge sharing, and shared accountability for the customer experience. These are elements that make the workplace more enjoyable, because there is less "firefighting" and feeling stuck in a reactive mode. In this section I focus on articulating the hard, measurable business results.

At this stage of its development, DevOps is currently constructed to address a few significant issues that have been holding companies back from increasing innovation and product development, as demonstrated in the prior section. The promise of DevOps can be summarized into three key performance indicators (KPI):

1. Deployment Frequency and Speed
2. Improved Failure Rates
3. Faster Recovery Time

I will describe each one of these here, as well as some of the tools and methods that support those KPIs.

One of the interesting ideas behind DevOps is that it aims to better align the goals of Operations and Development, turning them into a set of shared outcomes for the business. This means that operations are no longer only focused on stability and high uptime. It is also responsible and accountable for delivering more new features to production faster (i.e. more deployments). In the same way, the development organization is not only rewarded for more features and functions that the end user can use, but it is also accountable for availability numbers, stable code, and better monitoring instrumentation so that operations and the engineers have better insights into how the application is performing in real-time production.

In my own journey of learning about and applying DevOps principles in my workplace, I am also learning that the spirit of DevOps should not end with only operations and development breaking down the silos and increasing collaboration (i.e. meaningful communication and coordination). This philosophy should extend into other parts of the product and technology areas. In my company, I formed a group called “C4.” This group is composed of the heads of the product and technology groups: Product, Engineering, Operations and Data Analytics.

### **Deployment Frequency and Speed**

Deployment frequency focuses on the ability of an organization to take software written by the developers and implement it into the production environment, so that it turns into value to be used by the end user. At the heart of most of the challenges between the operations and

development tribes is the ability to produce high quality code and deploy it frequently to production. Based on my earlier discussion of Lean Startup, it becomes clear why it is important for organizations to have the ability to deploy new software updates more frequently. In the current business context of hyper competition and ongoing disruptive technologies from competitors, the ability to respond to changes in the marketplace is a key competitive advantage. The businesses that have this capability are able to maintain their position and attract more consumers. Survey results indicate “Teams that had been following DevOps practices the longest were shipping code up to 30 times faster—and completing deployments up to 8,000 times faster—than their lower-performing peers” (Puppet Labs and IT Revolution Press, 2012, p. 4). These results are also consistent with the many DevOps groups that gather at conferences and share their results with their peers (Zentgraf, 2013). The frequency and speed of software deployments to production can have a significant impact on the company’s top line revenue by attracting more customers and retaining them by consistently adding more features and capabilities faster. The business requirement for speed and frequency is quickly becoming the new normal in a post-PC era where new “apps” are introduced each day. There is no longer a barrier to acquire a new app and delete the old. It can be done very fast and inexpensively.

Another concept that is closely linked to deployment frequency is the ability to deploy that code fast into the production environment. Based on public remarks from the DevOps team that work at PayPal, they are able to take code from the developer’s desktop to the production in environment in less than an hour. That represents best in class deployment speed.

### **Improved Failure Rates**

Most people that have spent any length of time in IT will recognize the importance of improving failure rates, or reducing the numbers of outages. IT professionals have become battle

hardened by the many outages they have had to deal with over their careers. It is not unusual to hear stories about staff working for as much as 48 hours or more straight without any sleep to fix a system and restore a critical service. Many people will say it is simply part of the job of operations. One of the DevOps promises is to significantly improve the failure rates that occur in the organization. This is a challenge considering that more code gets deployed more often and done much faster, as stated above. As I will describe later in this chapter, there are some great DevOps practices that allow this to happen. Companies such as Amazon, Facebook, and Google have led the way in increasing service reliability in dramatic ways. This promise should make most business leaders thrilled about the DevOps movement. Just as faster deployments can lead to more revenue and increased customer loyalty, improved uptime helps with customer retention as well as avoiding stiff service level agreement (SLA) penalties. In my experience, the team I led most recently has surpassed my expectations of delivering great service availability by implementing much better monitoring and building services that can run in a more redundant fashion.

### **Faster Recovery Time**

The requirements for systems availability have continued to increase over time. In a similar way, consumers expect that whatever service they use (free or paid) will always be available to them when needed. This applies to a wide spectrum of services and not just the traditional applications for banking, the stock exchanges, and communication systems.

Consumers expect their email to be always available, as well as their ability to stream video and music from services like Netflix, Apple, and Amazon. The ability to respond quickly to failures is crucial. DevOps practices help to do that. The Puppet Labs and IT Revolution Press (2012) survey reported that the best-performing organizations were able to “restore service 12 times



faster than their peers” (para. 5). Of those respondents, almost “75 percent reported being able to restore service in less than an hour” (Puppet Labs and IT Revolution Press, 2012, p. 2). These improvements are the outcome of following design patterns and better configuration management.

### **DevOps: Culture, Automation, Measurement, and Sharing (CAMS)**

DevOps people often talk about the CAMS of DevOps, an acronym for Culture, Automation, Measurement and Sharing. CAMS is a helpful framework and is often mentioned to demonstrate DevOps is not just one specific thing (i.e. implementing a tool), but a broader approach for delivering technology services. CAMS is also about improving collaboration, communication, and coordination among different functions in the organization.

#### **Culture**

CAMS starts with culture because without the proper culture and mindset DevOps will not flourish or be as effective as it can be. As I shared in the opening narrative about my experience, the culture in one of the firms was not conducive to DevOps. Employees need to be able to self-organize and make specific decisions about tools, processes, and own the accountability. Based on my experience and additional research, DevOps does not function well in an autocratic hierarchical top-down management structure. This is one of the primary reasons that I began to explore how a relational leadership approach and associated practices can help managers and leaders bring about the transformational changes of a DevOps culture. An inclusive culture is one that is accepting and open to different ideas across the organization. Open communication is often discussed as one of the key enablers of a DevOps culture. Walls (2013) writes, “A DevOps culture is one created through lots of discussion and debate.

Traditionally siloed technical teams interact through complex ticketing systems and ritualistic procedures, which may require director-level intervention” (p. 5).

### **Automation**

Automation is often the first concept that comes up when discussing DevOps. Perhaps it is because automation of software tests, builds, and deployments are a prominent outcome of companies applying DevOps practices. In many instances, automation is no longer considered a luxury for the few large companies. Automation is now becoming a requirement to help address the challenges of increasing deployment frequency of new features, improving the speed of each deployment, as well as helping to keep thousands or even hundreds of thousands of servers in a consistent change (configuration management). All of these DevOps practices and tools need to be measured so they can be optimized over time.

### **Measurement**

Measurement can take many forms. But at the core, it is being transparent about the key performance indicators that make the difference. So while some may say measure everything, it is more important to measure the key metrics that are either leading indicators or lagging indicators of how the organization is performing and delivering value to the business. Some of the important measurement metrics include deployment speed, availability of systems (uptime), and productivity measurements of engineering and operations resources.

Monitoring and instrumentation is also vital for a DevOps movement. Monitoring and instrumentation needs to be integrated as part of the development process, and not be considered an operational afterthought. The more the operations and development organizations are able to “see” the performance of the applications, the better the organization is able to plan and improve their work.

Measurement also has a commitment to continuous improvement. By measuring and understanding the current state of the organization, it becomes feasible to implement improvements and continuously measure. From a business perspective, it becomes easier to translate the technology organization's performance to the rest of the executive leadership team. Some of the leading Internet companies are experts at measuring the end-to-end customer experience and the back office supporting process. For example, Amazon CTO, Werner Vogels (2013) goes further by suggesting running a large scale infrastructure. "It is really important to measure everything. You cannot start talking about performance if you are not measuring things. And you have to measure everything, not just the average. You have to measure things at the end of the distribution" (Video file). In my work practice, we have started to measure more elements, down to the individual transaction. That level of measurement allows the organization to not only be more engaged, but also allows for the staff to be more proactive and informed.

### **Sharing**

I think his focus on sharing knowledge and stories with other people in the technology community aligns well with the open source community philosophy. The distinction is highlighted when comparing traditional commercial software companies with open source software projects (Weber, 2005). There is an incredibly rich online community devoted to supporting the DevOps community. The expectation is that everyone shares their experiences and helps others learn and grow from that knowledge.

I end this chapter with an important warning by Kim (2014), one of the pioneers of the DevOps movement who writes,

The obstacles facing DevOps adoption may be marginalized as merely "technology problems"—however, business leaders who do so put themselves in grave risk. Transforming the IT value stream by adopting DevOps methods will likely result in a productivity surge as large, or larger, than the manufacturing revolution 30 years ago,

making this one of the most important and urgent business problems of our age. (para. 15)

In the next chapter, I offer my lived experience through a number of technological changes, and provide the basis for why we are at a critical moment in the midst of a seismic change in technology management. I, too, believe that the DevOps movement has the potential to be tremendous transformational force that can deliver measurable results in significant ways.

### Chapter III: History of Technology

I begin this chapter with a story of life in technology management because I think it captures some of the core issues: (1) the interaction of a particular model of and practice of leadership and the impact on the technology organization; (2) the breakdowns that occur when DevOps practices are not in place (see Chapter II); (3). The story also exposes the challenges of trying to manage multiple generations of technology infrastructure to support a company's core products. As technology professionals, we more often than not inherit legacy technology and infrastructure, rather than design it all. Having a responsibility over keeping a fragile infrastructure running requires a DevOps approach as well as a leadership approach that is currently lacking in many companies (Kim, 2014).

#### **“Life in Technology Management”**

My wife nudges me and whispers, “Your phone has been going off! They’re trying to get a hold of you.”

I am still not fully awake yet, but try to collect myself after being aroused out of a deep sleep. “Ok. Thanks, honey. Go back to sleep,” I reassure her like I have multiple times before.

I grab my cell phone and notice that it is 3:40 AM. The iPhone screen displays 4 missed calls: one from my director, as well three from my boss.

“Damn! This can’t be good,” I whisper under my breath. I am disappointed in myself for sleeping through so many phone calls. I rarely miss a call, regardless of how late or early it is. After all, that is what it means to be the VP at my company.

I call my director back first, and he does not respond, but I do get a text message from him to join the outage conference call. By that point, I am fully awake and feeling the rush of adrenaline, anxiety, and dread at what I might be facing. There is coffee in the pot from the day

before, and I just pour myself a cup, hoping that it's still good enough to give me some energy and focus.

Within a few moments I join the conference bridge, announce my name, and request a status.

“Good morning, Moudy. We started getting calls when the call center opened at 6am EST, about 45 minutes ago,” the engineer explains. “It sounds like they are having some type of connectivity issue. Something is down, but we have not yet figured out or traced the issue.”

As the engineer goes into the details, I remember that we recently laid off the last IT resource as part of an effort to centralize resources into fewer offices, rather than have them spread around the country. This means that the entire company's call center phone system is down and, because of the layoff, no one was around to notice until much later. The company is losing business and my team is responsible for restoring service.

I can feel the stress increasing and I know that I need to get some answers quickly. Although I have been dealing with outages and computer failures for the past 18 years, my body instinctively reacts the same way. My heart rate increases and I can feel the blood rushing around my gut with a tingling warmth that would allow me to launch into a sprint if needed.

Trying to get a scope of the issue and the business impact., I ask, “Have they been down for the past 45 minutes?”

A tired and not-so-calm voice answers, “Probably much longer than that, but that's when we first started to get calls directly from the agents complaining they had not received any calls since the start of their shift.”

An additional voice from the call bridge responds, “To make matters worse, the escalations did not work properly and no one called us right away. Matt, the local resource is not

there anymore, and that's who they would've called first. We only heard about it through a back channel." The engineer continues to speak, but I am distracted.

My cell phone rings. I see the name of my boss on the phone's screen. I take a deep breath and I answer. "Hey, Steve!"

"What's going on? Do we know what's down?" he demands. No time for a greeting or any pleasantries. He moves right to pointed questions with an intensity that would make most people's hair stand up on the back of their neck.

"Not sure yet. I was just on the bridge trying to get a current status and see what we need to do to restore service." My response was clear and brief.

"What are your guys doing about it?" he demands. "It's been over an hour, and we're still down and nobody has a f'ing clue?" He pauses and asks, "Do you have the right managers and engineers working for you, Moudy?"

"Yes. We have the right people working on this issue."

"That's not what I meant and you know that. Somebody has to lose their job over this outage. I mean it!"

This is not the first time I have been asked this question during an active outage. A time when I am needing to focus on the crisis rather than think about performance management. At moments like this, when I can feel my boss getting angry, I try not to engage directly, so I just let him yell and vent. It's much better that I am the receiver of his anger, rather than my engineers who need to focus on solving the actual problem.

"I am about to have 600 flipping people trying to log-on to their systems, and take calls from users of [federal agency] and you're telling me that 'maybe' their phones and email may not work. How would YOU like me to communicate that update to the executives?"

I remain quiet and wait until he is done so I can get back to supporting the team in their eager search to find a resolution.

“Moudy, you know this government contract is filled with SLA [Service Level Agreement] penalties, and I don’t know about you, but I am in the business of making money, not spending our profits paying back the government for an outage caused by your team.”

I take another deep breath before responding. I am also noticing that my emotions are now running high. Not only am I upset that I am going to lose another day of productivity, my wife and baby are up (they’ve been woken by the chaos), and I have half of my team on the phone trying to troubleshoot the issue.

I finally say, “My guys are all over it. They are looking at everything right now to assess the situation and restore services. We’re not very clear what happened just yet. But we’re working on restoring service as soon as possible.” Out of my frustration, I add, “What else do you want me to do?” That is not a very good question to end with when talking with my boss and CIO.

“Excuse me? Are you seriously asking me to tell you what to do? I thought that’s why I have hired you!” Clearly my boss is not pleased.

The CIO hangs up in anger and frustration. That exchange did not help and I am now feeling like I have two incidents that need to be managed: the outage with the phones and my boss’s mood swings. I shake it off because the call center is still down and that’s where I need to focus right now.

I join the bridge and quickly ask, “Guys. What the heck is going on? This situation is gonna get ugly quick. What happened and what are we doing to fix it?” Multiple people start talking about what they believe led us to this scenario over the weekend.



“Do you mean to tell me that we applied security patches Saturday night and never bothered to test the systems afterwards?” I jump in and ask.

One of the engineers responds, “I went to bed at four-thirty in the morning and did not have a chance to do it, but I thought that Joe was going to follow-up.”

“Guys, you have put me in a very bad situation. Now I am going to explain that we totally caused this issue, which could have been avoided.” People can hear the frustration in my voice.

Within the next couple of moments, I hear someone from my team say, “I think I found the issue. Just give me five minutes and all of the agents should be able to get back into the phone system and start taking calls again.” I am thrilled to hear that update after 20 minutes of silence on the call bridge as the team earnestly worked to solve the problem.

There is a sigh of relief that even comes from my wife, who is nearby listening to my stressful situation. But as I check my phone, I see that it’s now almost 9am, and the call center has essentially been out of commission for six hours. This means call center agents have been just sitting there, not able to take calls. And now we will have an incredibly angry federal agency.

As in all past technology outages, my team eventually finds the issues and restores service. This call center outage is no exception. Although the issue is finally resolved, I am feeling spent, as is my staff, and we all now have to get ready and head into work for a full day of IT operations management. There is a general sense that working relationships are continuing to become strained, not only among the leaders, but also between the individual contributors and the managers. I keep reflecting on the role of leadership, and why those who have the highest formal authority create an environment that is not based on mutual respect and understanding,

but rather on fear of making mistakes and fear of consequences when bad things happen. It's a high-stakes environment where each day feels like we are in the trenches ready for battle in a bloody war. This is not the first time that my boss and I have had an exchange of emotional bursts of anger. I am not pleased about it, but it seems this has become the normal way of running IT these days.

As I shared this story with my other colleagues at different companies across multiple industries, they sigh and simply say, “Yeah, well, that’s why they pay us the big bucks, right?” I hear resignation and a powerless acceptance bordering on helplessness. Is this the way I want to spend my career, the mere 10,000 working days that are connected together to form one’s 40-year professional life? Surely for the trillions of dollars that are spent annually on IT hardware, software, and services, there has to be a better approach for doing this. As a scholarly-practitioner, I have used these stories, which I have lived through to help me construct a new approach.

## **Chapter Overview**

In this chapter, I provide an overview of how technology has evolved over the past 35 years, from approximately 1977 to 2013. There are several authoritative texts on the history of computing (Campbell-Kelly & Aspray, 2004; Ceruzzi, 2003; Swedin, 2005), which provide a complete history that begins by exploring non-digital computing and the analog era. What many of these texts do not address is the perspective of the IT operations professional and the technology manager’s perspective. Much of the academic literature does not address the actual experience of the people who are tasked with maintaining and managing the complex and always expanding IT infrastructure. On the other hand, popular texts (Austin, Nolan, & O'Donnell, 2009) provide a less nuanced perspective. This is an area where I hope to make a contribution

by documenting the challenges of IT operations management, and propose new relational leadership practices that can help guide new managers and leaders to help their organization lead a DevOps revolution in their own work context.

For the purpose of providing a social and historical context for my inquiry, I begin by focusing on the major milestones that have created the current technology environment. Unlike Ceruzzi's (2003) comprehensive classic texts on the history of the computer, I write this history as someone who lived it and participated deeply with the technology. Ceruzzi writes from the Smithsonian. I write from the practitioner's trenches, in that during the early research of this study, I found myself reading an article while my team was doing network maintenance at 3am.

### **Market Transitions and Technology Organizations**

I began by sharing a story from the trenches of IT, because it represents a day in the lives of most technology managers and their teams (Levinson, 2011). And as I have learned from speaking with my colleagues and employees, their families are also impacted. The stress and continual family imposition does not end with the workweek. Weekends and holidays are also disrupted. As Levinson (2011) writes of one IT leader's experience,

Four people holding IT leadership positions in his organization had experienced stress-related illnesses over the past two years [2007 & 2008], including two who had heart attacks on the job. Two of the four IT leaders ended up retiring. One had to reduce his workload while he recovered from his illness, and the fourth had to take a medical leave of absence from the company. (p. 4)

I began to research relational leadership because I observed that leaders who behaved in a particular way were able to better manage and lead their teams through the difficult operational moments, and embrace new thinking along with the technology, such as the DevOps and Agile software development movements. At the same time, I observed many more leaders who would express anger, yell, and threaten their employees that if the problem was not resolved quickly, or if it ever happened again, they would lose their jobs.

According to Olavsrud (2012), a recent survey found the

typical organization experienced an average of 16 data center outages in the past 12 months, at a total cost of \$5.1 million. On average, one of those outages was caused by a natural disaster (costing \$1.5 million), four were caused by human error (costing \$1.7 million) and 11 were caused by a system failure resulting from complexity (costing \$1.9 million). (para. 8)

### **System Failures, Complexity, and Legacy Infrastructure**

The opening narrative has become all too common because of increasing complexity and the need for several generations of IT infrastructure to coexist for companies to function. Many of the challenges facing technology leaders today are correlated with the density of the IT infrastructure that they are responsible for managing and running (Olavsrud, 2012; Umar, 2004). Unless an organization was founded in the last ten years, the technology infrastructure is likely composed of multiple technology architectures. That is one major source of complexity and challenge IT organizations must work through (Chorafas, 2002).

In the modern organizations, there are three predominant technology architectures. Some are waning, while others are on the rise as part of their respective lifecycles. Figure 3.1 shows some of the different technology cycles, which are divided into the decades where they were most prominent:

- Client Server Computing (1980s to 2000)
- Internet Computing (1990s to 2000s)
- Cloud Computing (2010 to Present)
- Post PC and Wearable Technology (2010 to Present)



*Figure 3.1.* Dominant technology cycles by decade.

As I work to provide a historical perspective on the evolution of IT, I will be reflecting back on the challenges that lead to the types of situations expressed in my opening narrative.

### **Brief History of Computing and IT: A Lived Experience**

Chambers (Wolfe, 2014), CEO of Cisco Systems, was interviewed recently about his view of technology as CEO for the last 19 years. He said, “We don’t compete against competitors... we compete against market transitions” (para 4). This next section is about the story of information technology and the multiple waves of market transitions that have occurred in the past 35 years. I have traced the relevant history here to link the social construction of technology with the narratives that are often embedded in each of the technology models of the time. One insight that has emerged from my research and reflection is that there is a relationship between models of technology, the organizational structure, as well as with elements of the culture and leadership approaches (Daft, 2013). For example, the IBM of the 1960s and the traditional mainframe model would never have been able to create a machine to compete with the rebellious Apple Mac and its creators, Jobs and Wozniak (Flad & Griffen, 2009; Yourdon & Constantine, 1979).

Most of this chapter will focus on the modern era of computing, which I define as the birth of the personal computer in the late 1970s. However, a brief overview of computing is worthwhile to provide a broader context and historical perspective.

### **IT Before the Modern Era: The Mainframe 1950-1960**

Computing in organizations is tightly linked to the introduction of the mainframe, which IBM developed to become a booming business (Yoffie, 1993). Most large and medium businesses during the late 1950s and throughout the 1960s formed their entire technology departments around managing the IBM mainframe set of systems. During the 1960s, IBM became the dominant technology provider for primary buyers, such as government and large enterprise businesses. IBM gained market dominance by manufacturing the hardware and specialized software to run specific business functions. By the 1970s, IBM had gained about 70% of the market share. “No one ever got fired for buying IBM,” is a saying that is still quoted often in the IT community. That phrase illustrates how entrenched IBM was in most organizations. IBM, in essence, became the de facto standard for mainframes, and their grip in the market remains today, where large financial institutions still run some of their mission critical applications on the mainframe.

In the classic mainframe model, all of the processing power and business logic was performed on one system. As will be discussed later, there are two distinct perspectives on computing that have governed technology approaches since the 1970s, often referred to as *scale up* and *scale out* (Sitaram & Manjunath, 2011). The mainframe model is a scale-up model, which means that in order to get more computing power, a business has to purchase a larger system or expand the capabilities of their existing system. The later models of distributed computing that became popular with inexpensive servers *scaled out* by buying smaller boxes

(servers) and distributing the workload across hundreds, thousands, or, in the case of Google, hundreds of thousands of small server-computers, not costing more than a few thousand dollars each (Prigg, 2012). Sitaram and Manjunath (2011) conclude that scale-out systems are more cost-effective and powerful than scale-up systems, however the challenge is in “complex management of the infrastructure” (p. 257). As will be discussed later, that explains why companies have chosen the scale-out computing model, given the price and performance factors, while also taking on the additional liability of managing a more complex infrastructure.

### **Location of Processing Power**

In the mainframe model, all of the processing power was delivered by one monolithic computer (see Figure 3.2). This was perhaps why they would cost companies upwards of \$5.5 million each when they were the dominant model in the industry (IBM, Inc., 1964). That meant that all of the data, the business logic, and the application were stored and processed on the mainframe. The only thing that the business user was able to do was retrieve output information via a terminal, which essentially transmitted the information so that users could see it on a screen.

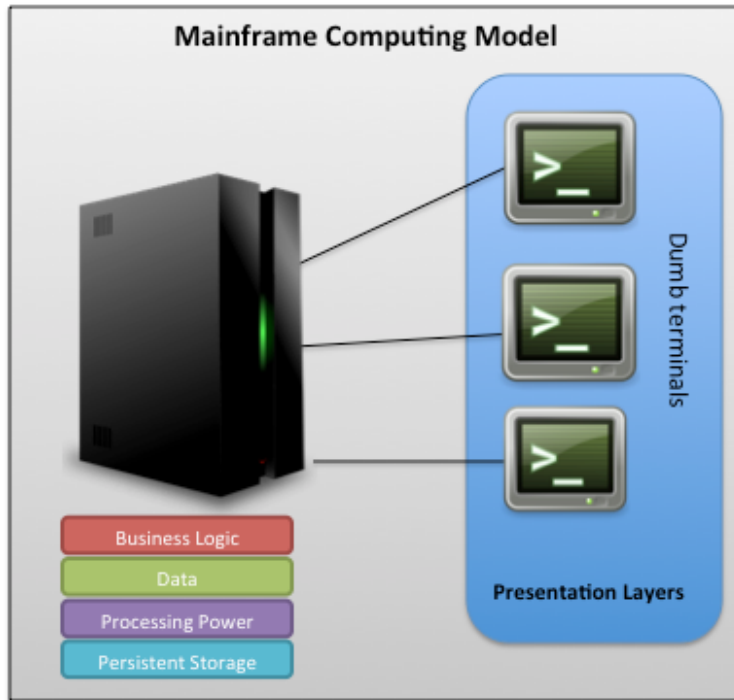


Figure 3.2. Mainframe computing model.

During the early days of mainframes, there were two primary uses: scientific calculations, which were being conducted at large research universities, and administrative functions performed by businesses or large governmental organizations, such as the Internal Revenue Service. Airline reservation systems were also early adopters for the technology (Ceruzzi, 2003). The characteristics of a mainframe included high availability, resiliency, security, and reliability. These capabilities are some of the main reasons that the mainframe architecture has survived for over 60 years (J. Kennedy, 2009).

### Computer Communication

In the mainframe model, computer communication was mostly one-to-many, and the way business people connected to the mainframe was through a *dumb terminal*, terminals used only to send commands and display outputs. Dumb terminals would send inputs to the mainframe and the mainframe would respond by presenting the required information. Terminals had the ability



to connect to multiple mainframe systems (e.g., accounting, order processing, etc.) that might be hosting one or several mainframes in the enterprise (Morley & Parker, 2012). At this point in computer network evolution, communications were fairly limited and there was no real requirement for large bandwidth as most terminals were entirely text-based. Without rich media or graphics, these networks were sufficient to operate in mainframe environments. Unlike other models of the modern era, none of the processing occurred on the terminal. The IBM 360 was released in 1965 and became the first general purpose computer for the enterprise. IBM has been making the case since the early inception of the mainframe that managing their infrastructure is far simpler than other environments due to its reliability, availability, serviceability, and security of the closed architecture (Hoskins & Frank, 2003).

### **Power of the User**

The end user had little power over the mainframe and the interaction between the terminal and mainframe. Of all of the various computing models, mainframes provided a rigid set of interactions that limited what the end user could do (Breeding, 2004). These early dumb terminals did not have multi-tasking capabilities, so each action was performed sequentially. It was the classic input-process-output in that each part of the interaction was similar to all other interactions. If the user wanted to see a different output, they might request a new feature or a new report, but they had very little control over the machine. As I will discuss later, this interaction between person and machine changes significantly over time. However, the groups that had the most power were the system developers and designers of the system. They could program and change or modify how the system processed specific data and how it would be presented on the end-user's screen.

Of all of the technologies that I describe in this chapter, the mainframe is the only computing environment that I did not have to manage. By the time I entered the workforce, mainframes had become specialized hardware that were considered “legacy” systems for companies that had been established in the 1970s or earlier. Due to the proprietary nature of the hardware and the software, management of IBM mainframe systems was a highly specialized skills set. IBM provided lots of services to maintain the systems. Although these systems were complex, they were few in number. Whereas today’s environments may have tens of thousands of servers, most companies had a few large or midsize mainframe systems. The complexity of the system was, by today’s standards, limited to a few large devices.

When I entered the corporate IT environment in the 1990s, one of my first jobs was working for a large mortgage bank headquartered in the Los Angeles area. While my primary role was to support computers running in a *client-server* model (more on that later), I interacted with the IBM mainframe team. It was not very difficult to know who worked in the mainframe group. Mostly they were older white men, who still dressed in formal business attire for work, and many exhibited a military-style approach to managing the infrastructure (McConnell, 1992). Strong emphasis was placed on standard operating procedures (SOP) and performing tasks that were all within documented standards (Knorr, 2004). There was hardly any focus placed on innovation or new or creative thinking. The mainframe was a status of stability and keeping the core business processes running. Later in my career, I worked and managed people whose sole background was in mainframe systems and they applied the same mindset and approach to new and evolving technologies (Carico, 2012; McConnell, 1992). McConnell (1992) notes the major difference:

Microcomputers are more distributed than mainframes, and microcomputer shops are more likely to distribute decision-making power too. They push it down to the people

who have to live with and implement the decisions... It's interesting to observe that object-oriented programming—in which control is relatively decentralized—has come of age at the same time as decentralized computers and decentralized human management structures. (p. 2)

That is to say that the nature of the computing model reflected the hierarchical human organization that was structured to support it.

### **My Experience With Modern Era Computing**

Much of what I have written in this chapter is what I can consider the modern era of IT, which started with the personal computer becoming a prominent feature on every desktop in most organizations. The modern era of computing was also linked to Microsoft's explosion as the producer of the Windows operating system and their MS Office productivity suite that has dominated word processing, spreadsheets, and presentation software (Brandel, 1995). The three market transitions of the modern era began with personal computing and the client-server model that became the de facto standard throughout the late 1980s through the 1990s.

I joined the IT industry at an exciting time in the history and evolution of information technology and have been fortunate to participate in several of the major technology cycles. The first technology cycle began with the popularization and accessibility of the personal computer (Garson, 2000). Like many other computer "geeks" that began experimenting with computers in their teens, I launched my technology career at a very early age. I started earning money by buying computer components from local electronic shops, building a fully functional PC, and selling it for a profit. The second cycle was the rise of the client-server computer. It was a powerful model that took advantage of a significant market transition in making systems affordable, powerful, and accessible to more businesses. The third major cycle was the rise of the Internet. In 1995, Bill Gates, then CEO of Microsoft, wrote in a private memo that the Internet was "the most important single development to come along since the IBM PC was introduced in

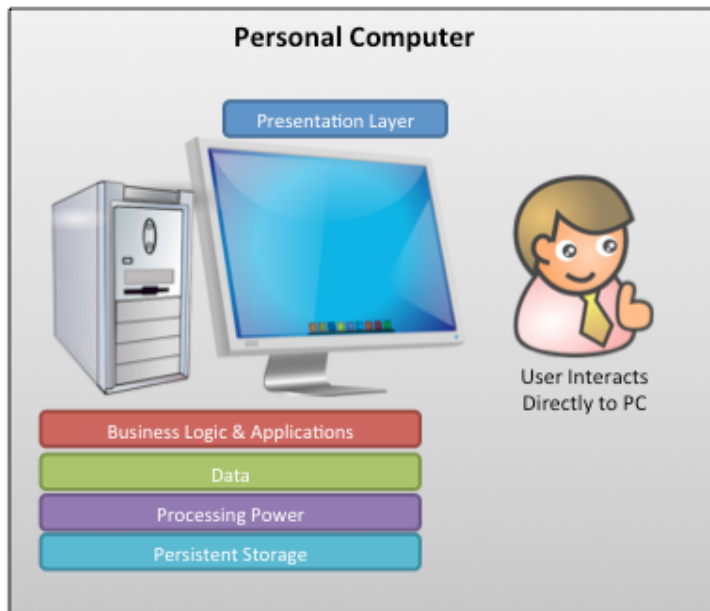
1981" (p. 2). That era, better known as the *dot-com*, experienced a major boom and bust in the early 2000s. Finally, we are experiencing another major market transition, which is marked by delivery of software as a service (SaaS), cloud computing, and mobile devices increasing faster than PCs, the post-PC era.

### **Technology in the 1990s**

In the middle of the 1990s most companies were still trying to figure out what to do with the Internet (Wallace, 2004). I learned the power of the Internet in 1995, when I began working at my college's IT department. My job was to install network interface cards to get personal computers networked, which made it easier for students to access a fast Internet connection, rather than being forced to use the slow dial-up system. The job was incredibly satisfying, because each day I would connect several computers that were standalone, essentially on their own islands, to the Internet and watch the joy of the students who were now able to access their email and do research from their dorm rooms without fighting for a time in an already crowded computer lab. It was truly an exciting time to be in technology.

Not only was a computer becoming more affordable for corporations, it was now more powerful and could process information locally. This meant a PC could perform word processing tasks, accounting in spreadsheets, and many other tasks that were once difficult or even impossible to perform manually. Figure 3.3 shows how the PC shifted the workloads closer to the user, and away from the mainframe. Intel became a major player, building faster processors where circuit densities of semiconductors would double on a regular basis every 12-18 months, a phenomenon known as Moore's Law (1975). A host of new possibilities emerged when an individual became able to use a computer and run multiple programs of their choosing. The personal computer was so much more than the dumb terminal. It could process information

locally, which meant business logic, databases, and persistent storage to save data were all available in one device that was fully controlled by its owner.



*Figure 3.3.* Personal computer local processing power.

Many place the birth of the PC with the first release of the Apple II computer in 1977 (Hertzfeld, 2011). It was the first time that computer enthusiasts were able to buy a mass-produced computer without the need to buy and install all of the components together, for only \$1,200. As I was conducting research for this chapter, I came across an early print advertisement for the Apple II. It is a scene of a man interacting with the computer, and the screen displays the Dow Jones Industrial Average and some very rudimentary graphics and color, while a woman, one would assume to be his wife, looks approvingly from the kitchen, as she slices tomatoes on a cutting board. That was the beginning of the computer revolution. Not only could companies buy computers to perform all sorts of new tasks, but they were becoming affordable enough to have at the home.

The PC was a fundamental game changer in that it brought computing power much closer to the individual user, and, unlike the world of the mainframe, removed programmers and developers from being in front of the experience. The word “personal” was meant to convey a certain closeness, flexibility, and the idea that the computer was designed to serve and delight its owner, which in those early days was referred to as a hobbyist. Although in the early days they were not inexpensive, the personal computer became far more affordable, smaller, and easier for technical individuals to manage on their own (Wozniak & Smith, 2007).

The idea that you could drive to Radio Shack or Circuit City and buy a game on a floppy disk, take it home, and use it was truly revolutionary in the 1980s. The computer was not just an electric typewriter or a way to save and store recipes in digital form, but there were literally thousands of new possibilities for the home computer. Intuit, now a large software company, was founded by Scott Cook in 1983. Cook looked at the computer as a tool for solving financial tasks and helping people easily balance their checkbooks and keep track of spending. That small idea, which started by observing his wife struggling with managing the family finances, has led to a company that employs over 8,500 people and produces several billion dollars of revenue each year (Taylor & Schroeder, 2003).

### **Thinking Differently: Apple and Steve Jobs**

I recently came across a rare interview with the late Steve Jobs, which was videotaped in 1995 after he had been fired from Apple. His remarks, which I transcribe below, had an impact on my thinking. Using a constructionist lens, I discovered that Jobs challenged the taken-for-granted view of reality as a fixed and rigid space. As his career and company performance illustrated, Jobs used his amazing ability to connect with others, to tell stories, and use language (see previous section on social construction of technology) to design truly magical

devices that have changed the lives of millions around the world. From my perspective, Jobs represents the intersection between technology, leadership, and applied constructionist thinking. Jobs' thinking and approach has left a permanent mark on the history and usage of computers. In the video, Jobs discusses what he considers to be the type of thinking that can set people free to create and design great products. This concept is similar to what Pinch and Bijker (1987) refer to as interpretive flexibility.

When you grow up, you tend to get told that the world is the way it is; and your life is just to live your life inside the world trying not to bash into the walls too much... Try to have a nice family life, but have fun. Save a little money.... But that's a very limited life. Life can be much broader once you discover a simple fact. And that is, everything around you that you call life, was made up by people that were no smarter than you! And you can change it. You can influence it. You can build your own things that other people can use. And the minute that you understand that, you can poke life and something will pop out the other side. That you could change it. You can mold it. That's maybe the most important thing... is to shake off this, uh... Erroneous notion that life is there and that you're just gonna live in it versus embrace it, change, improve it. Make your mark upon it... Once you learn that, you will never be the same again. (Jobs, 1995)

Jobs demonstrates not only a constructionist approach to viewing the world (e.g. the world is not fixed, contrary to the predominant Cartesian worldview), but also demonstrates how one of the people that had the most influence on inventing the graphical user interface and computers in general had also nurtured a philosophical perspective. Jobs' approach to personal computers, and later technologies, was an expression of his philosophy that saw humans as empowered beings, able to question the existing environment and the current order of things (Hacking, 1999). Jobs was known for saying the magic is the intersection between science and the humanities. Jobs demonstrated what Rorty describes as "the power of language to make new and different things possible and important" (Rorty as cited in Gergen, 1999, p. 62).

### **IT Operations Management and Computing Models**

In the previous section I explored the beginning of the modern era of computing by introducing the birth of the PC and the major shift from the mainframe computing model with

the more liberating force that the personal computer was for people in business and in their personal lives. In this section, I bring a more focused perspective on IT operations and introduce the other computing models that have shaped today's IT departments, including the culture, organization structure, and leadership implications.

Working in IT Operations today has dual challenges. One is working in a workplace that combines at least four generations of employees (Rowe, 2010; Zemke, Raines, & Filipczak, 1999). In the similar way, it also combines multiple generations of IT architecture or models that have to work together well in order for businesses to function. Young companies like Twitter and Facebook that started in the last decade have a significant advantage over companies with a longer history because they do not have the debt associated with all of the "legacy" technology models that remain in older companies that still require maintenance to be operational. Most of the companies I have worked in share this challenge: CIOs often ask, "How do we continue to innovate, and still maintain the systems and infrastructure that we have acquired over decades?" As well as, "How do I build a high performing organization that builds on the strengths of the four generations of employees without distancing or minimizing any particular group?"

### **Client Server Computing**

Once personal computers became powerful enough to run software locally, rather than as a display terminal (see IBM Mainframe section above), a new computing model evolved to become the client-server architecture. I was exposed to this model in the 1990s when most companies were deploying client-server technologies to support many of their business functions. After graduating with a degree in psychology, I was hired by a software company to install their software in the field. It was still in the early days of the client-server computing model. In this model, one or several computer "servers" would run the majority of the workload,



like a database and the application logic, while the “client” presented data and allowed the end-user to interact with the software installed on a personal computer. In order for the system to work, both the clients and the servers had to be connected on the same network and able to communicate or an outage was created. One of the most common examples of client-server architecture is a corporate email system like Microsoft Exchange (see Figure 3.5).

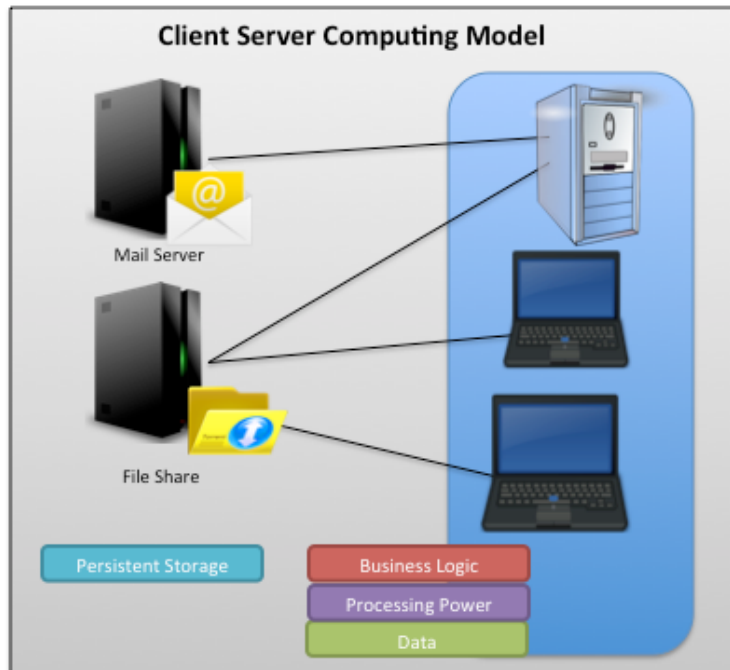


Figure 3.5. Client server computing model.

This type of system distributes the workload on a server system that manages the data in a database and handles much of the complex routing and management of email services. The other workload is done on the client. In this context, the *client* refers to the traditional PC running programs that connects to the server, hence the term client-server architecture. In this example, Microsoft Outlook, part of the Office productivity suite, is a client that interacts with the server to present emails in an easy to use way. As the costs of servers decreased, and at the

same time the power of PCs increased, this model has remained and continues to be an approach used in most companies.

At this point in my career, which was the beginning to the world of IT for me, I spent most of my time traveling across the country installing and configuring the server software, as well as the desktop software that was required to make the system work. At that early stage in my career, I began to see the difficulty of managing a client-server infrastructure. Each time my company would write new software, we were required to fly back out to the client's site and spend several weeks planning the new upgrades and then proceeding cautiously to upgrade a server, also known as the "backend", as well as the all the desktop clients. It was tedious work, prone to errors, and if there was a bug discovered in the software, emergency software "patches" would be required and that's when the work would not have an end. I once worked for over 36 hours straight to resolve a failed client-server implementation and we were asked to not stop until it was fixed. I went without addressing my basic human needs of sleep and had little time to eat and use the restroom. This gives more insight into the world of IT and the high stakes environment it presents.

While the client-server model allowed companies to save millions of dollars by avoiding maintaining large and expensive mainframe systems, it also introduced new challenges for the IT departments that have continued until this day. As the client-server model continued to grow in popularity, companies also bought more and more computers. Managing thousands of computers became an incredibly challenging role (Computer Weekly, 2010). Most of the bad press that IT receives is formed by the frontline employees who are responsible for maintaining the PCs in organizations. The typical helpdesk is the face of the IT organization and is often the primary point of interaction for users of the systems.

After spending a year on the road, I experienced the true meaning of burn-out and longed for a more stable position and a technology that did not require heroics and sacrifices to keep it running. During that time period of installing client-server software for the hospitality industry, I began to experience the incredible level of stress that is brought about by being responsible for maintaining revenue generating systems. When the systems are down, and casinos can't charge for food and drinks, the management gets incredibly angry. Fortunately, the technology industry is one that is constantly evolving and, because of the many challenges that were being introduced by the client-server model, new companies were innovating, and creating different solutions for solving existing problems.

### **Internet Computing 2000s**

As the personal computer matured with greater processing power, more memory and more feature-rich software and operating systems, client-server computing evolved to dominate most business applications (Berson, 1992). The next market transition included major breakthroughs in communications technology, such as the Internet. The rise and accessibility of the Internet enabled the personal computer to do so much more in an unbounded way. Communications and access to knowledge around the clock became the accepted norm. With millions of computers and servers around the world, the Internet became the next logical step of connecting machines with each other, sharing content of all types, as well as search and find information as easily as typing into a search window. Andreessen (2011) writes,

Six decades into the computer revolution, four decades since the invention of the microprocessor, and two decades into the rise of the modern Internet, all of the technology required to transform industries through software finally works and can be widely delivered at global scale. (p. 6)

On the other hand, as computers got connected to the Internet, an entire new set of opportunities and challenges were introduced to IT operations. Connecting systems to each other

became much simpler and allowed for companies to share information much faster and cheaper over the public Internet (Oxford Economics, 2010). There were also many challenges, like protecting information from leaving the digital front door (the Internet) without anyone knowing. Security has been and continues to be a major issue of concern once computers became networked together through the Internet (Himma, 2007). The model of client-server computing was shifting to a “browser-server” model. The Internet browser became a general software client that allowed for access to many different applications without requiring specific software to be installed on the computer. For example, many of Google’s applications are delivered directly through the browser, such as Google email, hangout, the web conferencing software, as well as the Google applications for spreadsheets and word processing (Beswick, 2009). As I will explain in the following sections, the story of the Internet continues to evolve with market transitions.

### **Post PC Era: The Always Connected World**

The first thing that I do when I wake up is to check my iPhone. I look for new emails, alerts, and also check the weather and quickly scan the headlines for anything interesting. I may respond to a few text messages I might have missed from the prior day. Before I head to work, I turn on my TV, which is connected to a small device called Roku, that streams content to my TV in a seamless way that looks like normal HDTV programming. I get into the car and launch the Google Maps apps. Although I already know how to get to work, I am checking for traffic conditions in real-time. Even a small accident or a breakdown can add an additional 20 minutes to my commute. Once I see that my route for that day is green, I turn on my streaming music service on my iPhone and listen to my playlist as I drive into the office.

Once I get into the office, I logon to my laptop and launch my email client, and various applications that I run as part of my workflow. My phone has already lost about 20% of its

battery usage, so I charge it on the cradle and access my iPad. I use my iPad as my notebook I take to meetings and stay connected when I am not in my office. Although I have been in the office for less than an hour, I have already connected to a large number of cloud services and “touched” hundreds of servers running in the cloud. Welcome to the Post PC era, where the line between online and offline is blurred.

In the post-PC era, which we have already entered, the computing paradigm changes once more. One of the key characteristics of a post PC era is the ubiquity of smart phones and tablets that power processors and advanced operating systems that allow them to run applications locally, while also consuming content delivered from the cloud (Mall, 2008). The cloud in this case is the millions of computers on the Internet that deliver rich content on demand. A simple example is unlocking an iPhone. Upon “waking up” the device, it connects automatically to the cloud and begins refreshing data that local applications rely upon. The weather apps receive local weather status and can provide an hourly forecast, the email application downloads recent emails, as well as the stock applications refresh with updated stock prices.

It is now common knowledge that there are more mobile devices on the planet than people. Billions of devices are connected to the cloud constantly. In many ways, the post PC era is similar to the client server computing paradigm of the 1990s with the exception of that the servers are distributed across the world and are always on and connected.

For some historical context, the term post-PC era first originated when Apple’s founder, Steve Jobs, discussed the future of personal computing during an interview alongside Bill Gates at the fifth “All Things Digital Conference” in 2007. At the time he described the Post PC Era as “a category of devices that aren’t as general purpose, that are really more focused on specific functions, whether they’re phones or iPods or Zunes... I think that category of devices is going

to continue to be very innovative and we're going to see lots of them" (Jobs, 2010). With the rise of mobile and more recently wearable computing, everything has changed. What Steve Jobs did a great job of explaining is that, in the future, the traditional PC would no longer have to be the center of one's digital life, and mobile devices, such as tablets and smartphones, would be "more portable, more personal and dramatically easier to use than any PC has ever been" (Jobs, 2010).

### **Location of Processing**

In a post PC era, there is a hybrid environment created. On the one hand there are billions of mobile devices, smart phones, and tablets that allow users to consume content delivered via the cloud. There is a lot of processing happening in the cloud. Yet at the same time, their local device is also very powerful and is able to process and present the data delivered via the cloud in multiple ways. The industry appears to be split regarding the ultimate delivery model that we are moving towards. It is clear that the cloud will continue to be more powerful and will continue to deliver richer and more powerful services. But the other trend is that the mobile devices also continue to increase according to Moore's Law which was described earlier. Probably the one unique thing about the current situation is the number and the different ways of connecting to cloud services.

In the post PC era, communication is complex and connectivity is everywhere. As was stated earlier, this is the era of fast access to the Internet regardless of location. Access to the Internet is fast and is also relatively cheap. Many of the common electronic devices are now able to connect to the Internet. Alarm clocks, watches, and even refrigerators have Wi-Fi connectivity and are able to download relevant content from the Internet. Not only are devices able to connect to the cloud with ease, they also connect and share content among each other. This happens when

multiple devices sync content all of the time, so that an iPhone syncs with the laptop, which also syncs with the tablet or iPad device.

The Post PC era will be best known for the tag line, “There’s an app for that.” Users have ultimate control and influence over the content and the applications that they want. There is an explosion of productivity applications, or apps, that are inexpensive and incredibly simple to purchase and install. During the early days of the PC, installing applications often required a computer consultant, whereas installing apps on a modern device is as easy as clicking on a link. The term the industry uses to reflect this new reality is “friction-less” buying, and Apple was one of the early companies that made it incredibly easy to search, find, buy, and install new apps.

### **Internet and Software as a Service (SaaS)**

With the birth of the Internet, new possibilities for computing were being invented daily. The Internet can be conceived as millions of computers connected to each other and share information publicly. Another way of thinking of the Internet is as a large computer with which one can do anything very cheaply. As I previously stated, the client-server model is still running strong and the new model that is evolving is essentially running more applications on the Internet and accessing them using a general purpose internet browser. This model of computing is the fastest growing. SaaS refers to “Software as a Service” and essentially refers to software delivered on the Internet and provided as a service to businesses and consumers. What makes this model so powerful is it places low requirements for IT. Basically a fast Internet connection is required along with a modern standard web browser. There is no need for expensive hardware and software to be purchased. No requirements for installing and maintaining complex software are needed because all of the management is being done by the service provider of that service. Unlike traditional software applications in a client-server model that require an upfront purchase,

SaaS applications typically offer subscription-based pricing and are usually licensed on a per-user basis.

Technology leaders across the globe are facing many challenges that are adaptive in the sense there are no easy answers (Heifetz, 1994; H. Gardner, 2011) and these challenges require thoughtful reflection and a growth mindset that is open to new information, experiences, and challenge what a leader already knows. These are also unique challenges, because they are new and dynamic; the business school case studies have yet to be written. Many of these challenges were not even considered as threats just ten years ago. So anyone who says, “I’ve been there, I’ve done that,” is either misled or is in denial with the current technological challenges.

Quinn (2004) shares a great analogy of the changing environment that is often experienced in Information Technology (IT) when he uses the analogy of the boat’s anchor, which is required to keep the boat safe from being swept out to sea. “The anchor is thus a useful tool that keeps the ship from aimless drifting” (Quinn, 2004, p. 5). Quinn continues to explain that an anchor can also lead to the detriment of the ship, such as in a major storm, when an anchor will not allow the ship to flow and ride out the storm. Quinn (2004) continues, “In a dynamic world, the tools that we usually see as assets can turn into liabilities. Over time, it is natural for both individuals and for organizations to develop anchors” (p. 6). In the three examples of challenges described below, there is the “anchor” approach to solving the problem, using old thoughts, beliefs and behaviors, and there is the relational leader approach which is more mindful, narrative-focused, and reflexive, always open to learning. In addition, the reader can observe that these challenges need to be analyzed from a systems thinking perspective (Senge, 1990) rather than a strict linear way of coping with them.



## Information Security

Securing the many systems hosted on the Internet is a major challenge to organizations worldwide. As more companies increase online services to provide easy-to-use tools, such as online registrations and credit card processing, the companies become targets of hackers and serious cyber thieves. Some of the most recent data breaches have been severe. For example, in December 2013, during the height of the holiday shopping season, Target announced that over 70 million credit cards were stolen from their networks (Ziobro & Yadron, 2014). Many of the security breaches that occur are not discovered until months have passed, while many others that are discovered are never brought to light or mentioned in the press. For example, in early 2014, a luxury retailer, Neiman Marcus, also reported a major data breach that had occurred months before it was announced (Walker, 2014). Security experts in the industry claimed that 2011 was one of the worst years in security breaches with some very high profile cases such as Sony Online, Citigroup, and Epsilon (Rashid, 2011). While it is still too early to assess the damages of the 2013 Target breach, it is clear that the incidents are becoming larger with more significant impact (Mello, 2013). Application Security CTO Shaul wrote, "If you are an organization with money, there is someone out there who would be happy to steal it from you. If you have valuable data, same deal" (as cited in Rashid, 2011, para. 3).

Using Quinn's (2004) analogy of the anchor, certain leaders react to the security threat by falling into outdated ideas about shutting down all non-critical IT services, which gives the perception of security, but does not fully address the overall security posture of the company. Relational leaders deal with the security challenges in a different way. They do not only see this as a technical fix and spend more capital. They dispose the old anchor completely and embrace a relational approach to solving the security issues by engaging the key stakeholders, educating

employee to raise awareness (storytelling), and implementing smart processes that utilize a human-centric approach (Senge, 1990). Relational leaders see the information security threat as an opportunity to nurture a learning organization, “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together” (Senge, 1990, p. 3).

### **Consumerization of IT**

The consumerization of IT refers to the rapid change in most companies. This may include employees wishing to use personal or business devices in dual contexts of home and work. This has changed the way IT interacts and supports the employees. A recent example from one of the companies I worked for demonstrates the challenge. The company had implemented a security policy that resets and erases iPhones and iPads after 10 failed password attempts, which is called a *remote wipe*. When this policy was put into place, the user backlash was not expected. In one example, an executive went jogging with a personal phone, but when he returned to check his emails, all information had been erased. This caused great upset because not only was the company information erased, all of his personal pictures and his music library were also erased. All of the data on the device did not have a backup, making the data non-recoverable. Technology leaders have to think of innovative ways to manage the multiple personal devices and keep the company secure, without negatively impacting the employee experience.

There is also a major rise in social media services like Facebook, Twitter, LinkedIn, and Yammer. In the past, these types of websites would have been blocked by the corporate firewall and the vast majority of employees expected that in the workplace. Today, the situation has changed. D'Arcy (2011), a Dell executive writes,

This phenomenon is the traditional enterprise IT killer, not just the killer app. For *knowledge workers*, social networks have become necessary and ideal tools for building work relationships and conducting business. For example, Dell employed Salesforce.com's Chatter to more than 90,000 Dell employees. Being able to follow opportunities is a key feature of this application, so social connections literally mean sales connections. Employers need to facilitate this type of social collaboration, not be threatened by it. (p. 2)

### **Cloud Services and Rogue IT**

When I entered the technology industry in the mid-1990s, the IT department was king, because it was the only place that provided the technology services for a company. If IT did not support it, it meant the company's employees could not have it. Sometimes, a small group of "rogue IT" employees would try to implement a few technologies, but they were limited to what they could do outside of the company's data centers. Today the situation has changed dramatically. Because of "cloud computing," a new methodology of delivering IT services through the Internet, it is much easier to buy whatever is needed outside of IT's governance and oversight. "Business users everywhere these days seem to be losing their collective minds and going rogue... Who needs IT when the corporate Amex will speed you right onto that new cloud service?" (Johnson, 2011, para. 2).

The above are recent examples of challenges that are embedded in my experience of working in IT operations and management and leading technology organizations. These challenges speak of the "unprecedented requirement for adaptability" (Schon, 1983, p. 15). That is to say, technology leaders need to be in a state of openness and learning to continually make better assessments of the situations and challenges they are facing. Brooks wrote the following, which captures the essence of the challenges faced by technology leaders:

The dilemma of the professional today lies in the fact that both ends of the gap he is expected to bridge with his profession are changing so rapidly: the body of knowledge he must use and the expectations of the society that he must serve. Both these changes have their origin in the same common factor – technological change. (as cited in Schon, 1983, p. 15)

In this chapter, I set out to achieve three objectives. The first was to create the context of running and managing IT operations. The story in the beginning of the chapter hopefully illustrated the experiences of many engineers, managers, and technology executives for what actually happens on a daily basis. Kim et al. (2013) have written an entire novel about the daily experience of managing production systems, which is a great source for further exploration. The second objective was to weave my own work history and experiences in IT, which have spanned the last 20 years. Finally, I connected my experience in technology and narrative within the context of the larger historical perspective of computers over roughly the past 35 years. I briefly outlined the main computing models and paradigms that have come to define the modern era of computing, as well as explored some of the challenges that persist in the IT management industry.

## Chapter IV: Research Methodology

In this chapter, I will provide an overview of my methodology for how I approached and executed my study. Kezar (2004b), as well as my faculty, has encouraged me to begin with a burning question or a curiosity, rather than begin with the method before constructing the question. As I mentioned in the introduction, my experiences, first as a technology professional responsible for supporting system, and then later as a manager responsible for a team and a department, I have witnessed (and participated) in poor management practices. I was taught one management approach, which was the “Amoeba theory of management,” which included management by fear, while applying some rewards and recognition sparingly. I was baffled that we often bestowed recognition and financial incentives after the employee delivered his or her resignation letter. I became interested in the topic of relational leadership not because I thought that relational leadership was the cure for all of the issues surrounding culture, organizational, design, leadership, and DevOps, but because I saw that it can open up new ways of speaking and connecting with others that makes it possible to create a new organizational reality.

My study began with a desire to explore new forms of being a leader that were informed by a new set of assumptions. I set for myself a goal to discover and learn new practices that were based on a relational leadership philosophy so that I can be a supportive leader that helps bring about the changes and promises of a DevOps culture (see Chapter II). In short, my work context, my intellectual interest in relational leadership, and my professional interest in DevOps as a movement that can transform the world of IT led me to a theoretical dissertation that is practice-based. I also learned about the Scholarly Personal Narrative (SPN) approach, which complemented my dissertation topic nicely. In this chapter, I discuss three core aspects of my research methodology and explore the SPN approach. I hope to make the case that use of

narrative is a viable method of qualitative research in leadership studies. In this chapter, I describe the tenets of SPN and explore the four primary components of the SPN approach as they relate to my specific research project. In the spirit of SPN, I will continue to weave my narrative about the scholarly personal narrative.

### **My Story of Discovery: The SPN Approach**

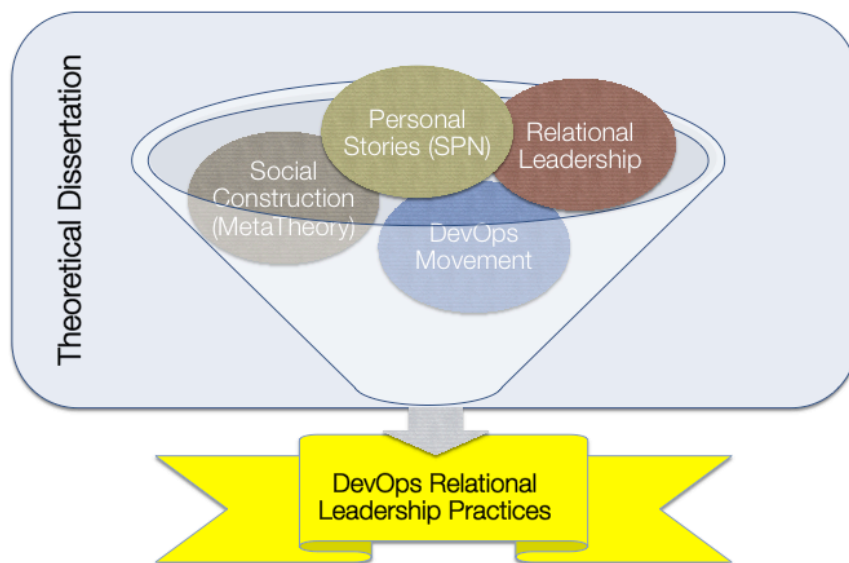
Bentz and Shaprio (1998) have outlined the “four primary functions of scholarly inquiry for the scholarly professional:

1. personal transformation;
2. the improvement of professional practice;
3. the generation of knowledge; and
4. appreciation of the complexity, intricacy, structure and-would would say—beauty of reality. (p. 68)

As I explored my area of practice as well as the academic literature, I found very little research that attempted to connect relational leadership with the DevOps movement as a way to help transform technology departments from “legacy” thinking to a post-PC era mindset, where stability and agility are embraced to help the business solve important problems. I was not necessarily looking for a gap in the literature, rather I was troubled by my professional experience and the “dying cows” in my industry of IT and technology operations. The more I spoke with my colleagues, the more I discovered they were troubled by similar issues. People were stuck and it seemed that applying the same practices based on outdated modes of understanding were not going to help.

I also noticed a growing set of academic voices that were trying to make scholarly writing more meaningful and human-centered. Sinclair (2007) critiqued the leadership literature

writing style, saying “the conventional vehicles for academic work typically pretend that the author’s personal perspective and interests are incidental to the written content... almost all scholarship...is written as if the author is absent, as if objective truths are being recorded” (p. xx). Sinclair has been an exemplar of a scholar conducting leadership research using an approach that resembles Nash’s SPN. Since I belong to a practitioner community that is in desperate need of new knowledge and new ways of approaching technology management, I found that the SPN approach would allow me not only to answer my research question, but also do it in a way that would be more accessible to the people that I think would benefit the most from my research. Figure 4.1 represents the research approach that integrates SPN, relational leadership and the new emerging practices of DevOps.



*Figure 4.1.* Research strategy: Conducting a theoretical dissertation.

I selected the scholarly personal narrative approach to conducting my study because it aligned with my personal goals as well as my professional area of focus. During the early phase of my research, what Nash and Bradley (2011) call “pre-search,” I found meaning in the Bentz and Shapiro quote above. My graduate education was a component of a personal transformation

that I was seeking that would not only allow me to be more knowledgeable, but also help me become a better, more thoughtful leader. I also had a desire to help improve my professional practice, which I saw as promoting DevOps as the new way of managing the complex work of IT. In the process of developing relational leadership practices that have helped me support my organization's shift towards DevOps, I also wanted to contribute to the scholarly-practitioner base of knowledge. Since this dissertation is the first to address DevOps as well as relational leadership practice in a technology setting, I hope that it will be used to further a research program.

### **Qualitative Theoretical Research and the Knowledge Problematic**

In this section I rely on Cunliffe's (2011) masterful article, *Crafting Qualitative Research: Morgan and Smircich 30 Years On*, as a framework to explain the key philosophical assumptions and situate my scholarly personal narrative study within the three "Problematics" that she develops, building on the earlier work done by Morgan and Smircich in 1980. There are more nuances to each of the problematics, because they represent a continuum of ideas and positions, but given the space limitations, I provide a generalized view of each of them here. I have reproduced Figure 4.2 from Cunliffe's article, showing the three knowledge problematics. I found it helpful to get oriented with this figure first, prior to moving into the discussion of each one.

The following section is a description of each of the knowledge problematics. Following that, I introduce my stance, which is something that I consider a work-in-progress and not the final word.



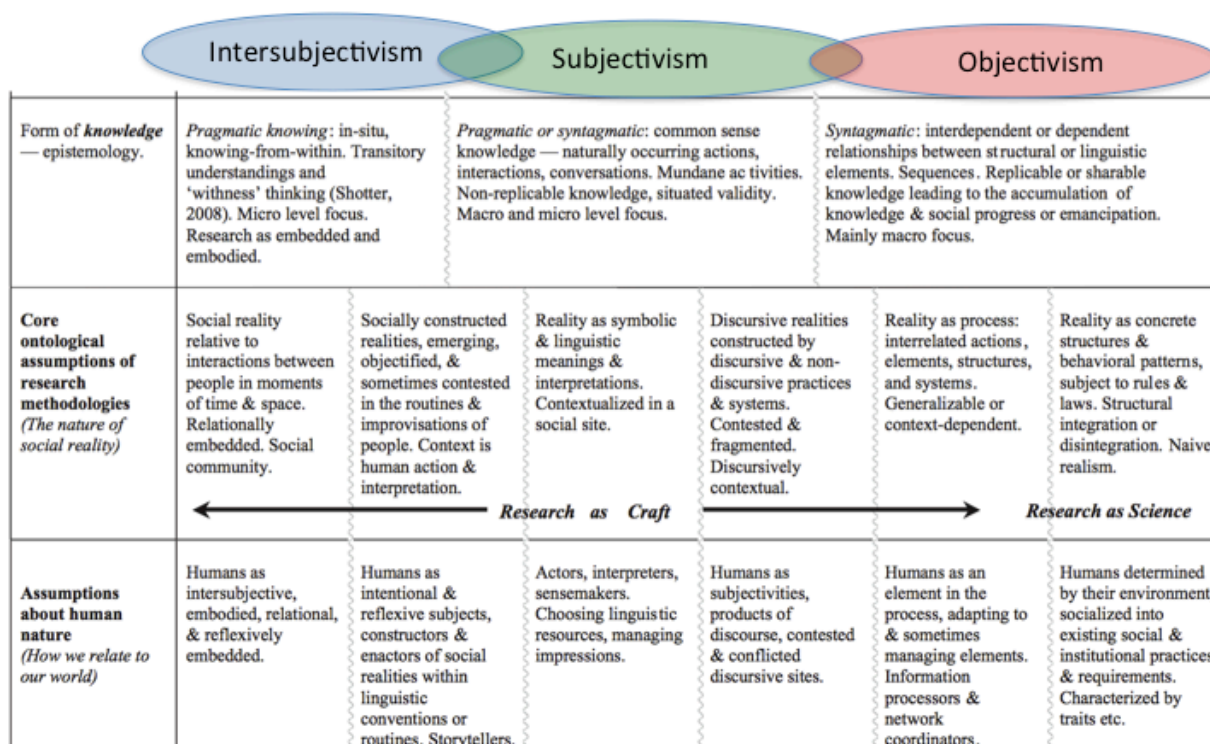


Figure 4.2. Cunliffe's three knowledge problematics.

Adapted with permission from "Crafting Qualitative Research Morgan and Smircich 30 Years On" by A.L. Cunliffe, 2011, *Organizational Research Methods*, 14(4), 647-673. Copyright 2011 by Sage Publications.

## Objectivism

Objectivism is perhaps the most common knowledge problematic in research, as it is most associated with the "scientific method" that is taught in U.S. high schools and undergraduate programs. From an objectivist perspective, there is an independent reality that exists "out there" and can be discovered and researched by systematically collecting data and making careful observations. Each of the knowledge problematics draws directly on ontology (the study of being), as well as epistemology (how do we come to know things). The researcher is someone who stands apart and observes, always maintaining a careful "objective" stance of the phenomenon under study. Most of the natural science research falls in this problematic where there is a clear separation between the observer (subject) and the thing being studied (the object)

(Burr, 1995). In objectivism, meaning resides in the object that is being studied, as it is the external reality (Crotty, 1998; Uhl-Bien & Ospina, 2012).

Cunliffe (2011) describes the nature of knowledge in an objectivism problematic in this way:

knowledge is syntagmatic, with researchers theorizing what reality is—what it comprises, how it is structured, what its characteristics are—and also how it works, which means identifying causal mechanisms, variables, rules, or laws determining its structure and operation, with an emphasis on accuracy, explanation, and prediction. (p. 653)

Given the history and culture of the European mindset and the Enlightenment, objectivism is a seductive notion. It provides a certain level of certainty, based on logic and reason. One does not need to rely on “faith” or some other unknown force to explain, predict, and control our world. It should also be noted that objectivism is not a “bad” approach; objectivism, with its careful and detailed analysis of variables and complex statistical analysis has resulted in advances in science and technology. It is however, not the only approach. Trying to impose these ideas on studying human beings has limitations as evidenced by decades and decades of leadership studies and yet, we are still unclear about many of the fundamental things that inform us about what leaders actually do or what constitutes the process of leadership (Burr, 1995; Crevani et al., 2010).

### **Subjectivism**

This knowledge problematic can be more easily contrasted with the objectivism problematic in that it rejects the notion of a fixed, knowable reality that exists independent of human beings. Subjectivists subscribe to different ideas of ontology and the epistemological correlates. It suggests our world is composed not of “The Truth” but many truths that are dependent on the individual’s context, place, time, history, and culture. Subjectivism is a distinct postmodern stance that is a rejection of the last 2,500 years of philosophical thinking. Plato is credited with being one of the early philosophers to divide reality into two realms of the ideal,

the invisible, and the real, which is visible (Benitez, 2007). Much of this thinking of dividing reality continued and was embellished by Descartes, who developed a model of perceiving reality as composed of dissectible dualities (Carriero, 2009).

Unlike the ability to declare that water boils at 212 degrees Fahrenheit at sea level, human nature is far more subjective and does not conform to rigid structures or rules. Cunliffe (2011) writes, “Because within the subjectivism problematic there is no independent reality to study, researchers explore constructions of social and organizational realities in a particular context...how we humans shape, maintain, and interpret social realities through language, symbols, and texts” (p. 656). Much of the leadership literature that I reviewed for this dissertation is informed either by a subjectivist or an inter-subjectivist scholarship, where language and discourse are important locations for understanding what happens in organizations and the leadership phenomenon (Fairhurst & Grant, 2010).

### **Intersubjectivism**

What makes intersubjectivism unique from subjectivism is the notion we are not islands living in our own language, identities, individual stories, and narratives about our life (reality). Rather, we are connected to others and are always already in relationships. These ideas are best summarized as “There is no ‘I’ without ‘you’” (Cunliffe, 2008, p. 128). When I reflect on my personal life, it becomes clear my life is shaped by my relationship with my wife and the world we are jointly constructing along with our son and daughter. There is always some conversation connected to who we are, our past, what we’re doing and what our future might look like together. The same holds true in organizations. All of the stories and the narratives we create to make sense of our work lifeworld are always connected and shaped by others, such as the “boss,”

the “colleagues,” the “customers,” “my employees,” the “executives in the C-suite,” and the “board members.” All of these form the social reality we call work.

Cunliffe (2011) writes that what makes intersubjectivism different “is [the] we-ness, our complexly interwoven, actively responsive relationships which are neither fully within nor outside our control as researchers or organizational members. We create some sort of sense between us in fluid, relational, responsive, embedded, and embodied interactions” (p. 658). In this knowledge problematic, what is important is the interaction, languaging with others, and meaning-making that takes place between people in an organization, as well as in research. There is a strong relational element in the intersubjectivist frame (Cunliffe, 2008). This frame is complimentary with relational leadership, because it makes clear the location of where the focus of study should be. Not on the individual actors, who we label as leaders, but in the dynamic interactions between people. (See Chapter VI, where I further explore this topic in the context of examining different leadership theories.)

### **Developing a Stance**

In the previous section I described the three knowledge problematics as articulated by Cunliffe (2011). Various scholars have encouraged doctoral students and leadership studies researchers to develop a philosophical stance before engaging in their specific field of study so that the work is coherent and has integrity (Barge, 2012; Cunliffe, 2011; Kezar, 2004b). Cunliffe (2011) makes that case eloquently by suggesting, “Crafting research means being careful about how we notice, bring to attention, and shape knowledge about organizational life... it is a reflexive resource for understanding the relationship between our worldview and our ways of researching theorizing” (p. 653).

At this stage in my academic career, my thinking is guided and moving towards an intersubjectivist position as a worldview for understanding the nature of social reality. Guba and Lincoln (1994) suggest researchers need to better understand the links between the ontological, epistemological and methodological questions. Ontology is concerned with the form and nature of our social reality. The ontology of an intersubjective perspective reflects the idea that what exists for us, what we call our social reality is co-constructed with others in relationships, conversations and the daily interactions that we experience as the mundane day-to day engagement. In my context as a technology leader, I am reminded of how meaning is made in real-time in conversation with the other organizational members. The research method I am using (SPN) is coherent with an intersubjective approach that is based on the ontological premise that our conversations with each other are not a mechanical tool of sharing information, but they are how we co-construct reality with each other. Cunliffe (2008) uses the example that while writing an article, “an observer would see as an ostensibly solitary and individual activity, but there’s a whole history of conversations with colleagues, students, friends, myself, reviewers, authors and texts that play into my writing” (p. 130). In a similar way, throughout my research and reflection, I have been engaged in conversations with my direct reports, bosses, as well as peers. Learning to observe organizational life from an intersubjectivist perspective allowed me to be more sensitive the fluidity of organizational life. Without that understanding, organizational life can feel tumults and irrational. In the process of writing this dissertation, I became a better listener and observer of how we create the structures, the goals and everything else out of the daily interactions. This is an intersubjective ontology where “in our situated, moment-to-moment dialogue with many others we shape our understanding of possible worlds, of ways of orienting ourselves in these possible worlds and of new ways of being and acting” (Cunliffe, 2008, p. 130).

The intersubjectivity perspective is enacted in the dialogue and the other “voices” present in my study. I have worked to capture the dialogue and the conversations that have shaped my thinking and practice. Organizational members are always implicitly negotiating meaning between themselves in the daily functioning of teams (Eden, Jones, Sims, & Smithin, 1981).

### **Why Scholarly Personal Narrative?**

I believe that I have been privileged to have a set of professional experiences in technology management that, if not rare, is at least scarce in the academy, where the scholars spent most of their careers in education. As I shared in previous chapters, my experience in technology started with the PC as a stand-alone device, and has evolved with the industry to operating in environments of tens of thousands of computers connected to each other and communicating at the speed of light. In this current era of technology innovation, we are witnessing the Post-PC era, where there are more non-PC devices such as tablets, smart phones, as well as smart devices than the number of PCs deployed across the globe. I began my career by installing simple IBM systems and now, I have become Chief Information Officer (CIO) at software-as-a service (SaaS) technology and analytics company. I have been influenced by the idea that “making research matter means transforming it from an academic exercise and putting to task so that our inquiry has meaning (Mears, 2009, p. 153). SPN is the methodology I chose for connecting my personal and professional experience with the scholarly literature to generate new knowledge, understanding and meaning. I also recognized that organizational life is inherently messy. Nash and Bradley (2011) summarize SPN well by writing,

While [SPN] is personal, it is also social. While it is practical, it is also theoretical. While it is reflective, it is also public. While it is local, it is also political. While it narrates, it also proposes. While it is self-revealing, it also evokes self-examination from readers. (p. 19)

The next section addresses some of the implications for conducting this type of study. These issues do not just apply to SPN, but to other interpretive scholarly research such as Behar's work, *The Vulnerable Observer* (1998), Ellis' autoethnography (2004), as well as Vickers work on *Autoethnography as Sensemaking* (2007). In the next section I have followed Nash and Bradley's (2011) presentation regarding a number of important concepts for researchers using the SPN method.

### **Universalizability Versus Replicability**

In conventional research methods, a question often asked is whether or not research results "can be replicated, copied, or duplicated by others in order to confirm or disconfirm the findings" (Nash & Bradley, 2011, p. 8). As someone working in the SPN method, the question changes to whether or not the insights of the scholarly-practitioner are *universalizable* or generalizable to the experiences of others in academia or professionally. Nash and Bradley (2011) acknowledge that all subjective experiences are different, but what is universalizable is defined as "the common existential themes that underlie these differences, and touch all human lives, regardless of the unique empirical differences" (p. 8). Even though the study is grounded in my practice and my own unique context, I write with the knowledge and aim to inform others in the hope they can build on my philosophical (theoretical) stance that has its origin in social constructionism, or experiment with the relational leadership practices for DevOps.

### **Perspectives Versus Data Collection Procedures**

In conventional research approaches, data collection is often a critical component of the study. As this is a practice-based study rooted in social constructionism, the data collection in the traditional sense does not exist. SPN researchers use the term "perspectives" rather than "data" and define perspective as how scholarly-practitioners "perceive and make sense of the world in

individual, personal terms” (Nash & Bradley, 2011, p. 83). I have enjoyed working with the SPN approach because it has helped me maintain coherence between my philosophical stance, an intersubjective view of the construction of social reality. Nash and Bradley (2011) prefer the term perspectives because it “suggests more of a constructivist approach to research in that the subject gives meaning to (rather than simply receives) what is observed” (p. 7). My personal narrative reflects my perspective on working in IT, leadership experiences, and also my own journey as an Egyptian immigrant learning at a young age to cope in a different culture. I recognize this might discourage readers, who are looking for the objective view of relational leadership, or “just the facts” DevOps. From my philosophical perspective, objectivity, as in the separation of the researcher from that which is being researched, is a myth (Bentz & Shapiro, 1998; Green, Franquiz, & Dixon, 1997; G. Thomas, 1998).

The SPN process can be divided into four components, as identified in Figure 4.3.



*Figure 4.3.* Scholarly Personal Narrative approach process

Nash and Bradley (2011) identified the guiding questions for each component as:



1. Pre-search: How do I get started?
2. Re-search: What scholars and researchers have informed my writing?
3. Me-search: What is my personal narrative regarding the ideas emphasized in my writing?
4. We-search: What are the implications for my profession, or field of study, that can be generalized from my scholarly personal narrative? (pp. 6-7)

### **Pre-Search**

According to Nash and Bradley (2011), the pre-search is the first phase of the process of writing an SPN dissertation. “First and foremost in the pre-search component of SPN writing is the discovery, by the writer of a *belief or burning question* that cries out to be answered. This aspect of pre-search is essential” (Nash & Bradley, 2011, p. 36). The start of this study did not begin when my committee was formed or when the proposal was accepted. I entered the Ph.D. program with a desire to connect my professional experience with scholarship and communicate my story as an approach to develop connections with other scholarly practitioners and technology managers. The general burning question was about how I can be a better leader (focused on being) and how I can help others be better leaders. As part of my admissions essay, I wrote the following:

I am applying to this PhD program because I want to continue to practice being a reflective leader. Reflection is an ongoing work and practice for me. By learning, thinking, and writing about leadership and change, I will continue to gain more clarity about who I am as a person, and a leader.... I believe we come to know who we are through community and connection with others. By being a member of a learning community like Antioch University, I believe that I will be able to achieve this first outcome of knowing myself and becoming more true to who I am.

The past few years have allowed me to continue to think about these questions and to form a compelling dissertation topic from all of the “Pre-Search” work that I had been doing. Even from the passage I wrote above, I can begin to see that I was thinking in relational terms,

but I had only a vague understanding of how a relational view of leadership, social constructionism and DevOps would be connected in a way that would potential have an impact in creating new knowledge and influence managerial practice. To use a Kezar's (2004b) term, I was also "wrestling with philosophy" (p. 42) because I believed cultivating a philosophical stance can have a positive impact on clarifying what it means for me to be a leader and shed light on the goal of leadership.

### **Re-Search**

My research phase was an extensive literature review across multiple disciplines from general social construction theory, post-modernist critiques, leadership studies, and relational leadership. In addition, I reviewed presentations, videos, and blogs on the evolving DevOps movement. I attended multiple virtual conferences to better understand how the DevOps conversation is evolving. As I evaluated journal articles and books, I was also forming an area of focus where I had to make decisions of what literature is relevant for my study and what material should be left out. This is perhaps the connective tissue between scholarship and the personal experience. The literature review (Re-Search) needs to engage the research and allow for "loving ideas so much that we are willing to play with them, to take chances with them, to express our passions about them, to deliver them in some fresh, new way" (Nash & Bradley, 2011, p. 101). The scholarship component is what distinguishes SPN from writing a memoir, autobiography, or an autoethnography.

### **Me-Search**

The Me-Search component of SPN writing required that I reflect and think about my own experience in the context of conducting this study. I began by sharing stories of my challenges and difficulties with education and learning that were linked to immigrating to the United States

while still not understanding the language. It also allowed me to reconnect with professional disappointments and setbacks that were painful moments. The Me-Search also forced me to think about my own assumptions and to challenge my earlier beliefs of what I thought a good technology manager did. The dissertation became a space for me to evaluate and try out ideas. These ideas turned into practice as I engaged with others in my organization. In order for the Me-Search to be effective, I needed to develop a level of honesty and vulnerability that is not common in academic and graduate studies. The most difficult challenge was to suppress the “need to look good”, which is ironic, because throughout all of the years in school, the primary focus we are taught is the need to look good. This happens by winning stars and answering the questions in the correct approved way, graduating at the top of the class and using grades and other achievements to hide behind them. Unfortunately, the need to look good does not end in school. A similar situation occurs at work as well, where the need to look good, to appear that I have everything under control is prevalent. There is a logic that maintains because I am being paid for my knowledge and skills, I need to maintain a posture that I know everything.

Bentz and Shapiro (1998) referred to Jordan and Margaret Paul’s (1983; 2002) work on communication in relationships. They describe two basic intentions: the intent to learn (being open) and the intent to protect (being closed). Bentz and Shapiro (1998) describe these intentions this way:

The intent to learn is a genuine openness to exploration and discovery, to go beyond existing boundaries in order to find out something about the other, which may sometimes involve personal discomfort. The intent to protect is an intention to defend one’s existing boundaries, feelings, and self-definitions... to avoid taking anything about the other that does not fit in with one’s own preexisting feelings, beliefs, values, and ideas. (p.163)

In performing my study, I needed to think reflexively about my own intentions, which shifted from one of learning to one of protecting along the journey of writing and researching relational leadership and DevOps. I discovered my early drafts would sometimes shift to

protecting my ideas, which would take the form of making universal claims that stood in contradiction with my philosophical stance of the social constructionism.

### **We-Search**

We-Search is the process of exploring how my practice-based study can help others learn from my experience and use the knowledge and the concepts to apply them in their own unique context. Relational Leadership is not a one-size-fits-all approach. It depends on the people who are in conversation together. Based on my understanding and experience working in a relational leadership perspective, I offered some of the lessons I have learned and developed into a set of practices for DevOps leaders. Chapter VI is my We-Search in this study.

Nash and Bradley (2011) claim “SPN researchers think of what they do as giving personal testimony to make their points rather than accumulating empirical evidence to prove something beyond a shadow of a doubt” (p. 7). The SPN methodology enabled me to give personal and professional testimony in the context of technology management and my own journey of discovering new ways of “doing technology.”

## **Chapter V: A Conceptual Discussion of Social Construction**

A shoe factory sends two marketing scouts to a region of Africa to study the prospects for expanding business. One sends back a telegram saying, "Situation hopeless, stop, no one wears shoes." The other writes back triumphantly, "Glorious business opportunity, stop, they have no shoes!"

(Zander & Zander, 2000, p. 8)

If any term can raise small hairs on the backs of contemporary necks, it is 'Construction.'

(Godfrey-Smith, 1998, p. 9)

### **"Doing Things With Words"**

I did not always value the importance of engaging in conversations with all members of my organization. This was because I learned how to be a manager by watching how my senior managers acted, and after each promotion, I watched more carefully and learned to act like my superiors. The senior executives who were at the top of the hierarchy spent less and less time with the missing word below them. The job of engaging in meaningful conversations about the past, present and future of the organization was left for someone else to do. However, I noticed that the mid-level leaders (e.g., directors, senior managers) were also "too busy" to spend time establishing connections through conversations and sharing stories with the employees of the company (Kuratko, Ireland, Covin, & Hornsby, 2005). Outside of the scripted quarterly "All Hands," we rarely saw or engaged with the senior leaders of the organization. So, early in my career, I learned that one sign you are a senior leader or an executive is that you don't engage directly with the front-line employees. There are much more important things to do, and you don't want to give the impression that you are not an executive.

I remember holding a staff meeting with my team. At the time I was a director responsible for close to over 90 staff. One of the managers complained that his team had not seen our VP in several months.

“He sits in the building across from us. Why can’t he just walk by once a quarter and just meet the staff. They would love to hear from him and get to know him better.”

“You know he’s very busy, and is constantly traveling around the country. Look! He really appreciates all that you do for our department, and he has hired people like myself to take care of the frontline employees and managers. That’s why I am here!” I honestly did not know what else to say.

“Ok. But I don’t even think he knows the names of my team members. I bet he probably does not even know that I report to you. He probably thinks that I still work for Kevin.”

“Well, you know our VP is an introvert and it’s not his thing to walk around and meet people.”

Although I delivered that feedback to my VP, at the time I downplayed the importance and actually framed it as the team is “whining about not seeing you around.” Eventually, the team stopped asking and I think we, as a leadership team, lost an opportunity to establish better engagement with the organization.

This story and similar ones have played out several times in my career and I often wondered what would happen if the top leaders of the organization would invest the time to have conversations, both formal and informal. Could we have improved the performance of the group by working on constructing a shared vision of the future, and formulate the types of technology services and capabilities we needed to have so that our organization would be better served? Could the significant changes that we all desired have happened because we took engaging in meaningful conversations more seriously?

On the one hand, yes, being an executive requires attending lots of meetings and focusing on the strategic goals for the company, while making decisions that impact the long-term

prospect of the business. Yet, my study of social construction has allowed me to question the hidden assumptions that might be blocking leaders from seeing the value of conversations that help shape and make meaning and sense of our social context. When a leader sees that having conversations is just “empty talk,” they redirect their attention action and simply focus on “getting things done.” It’s no wonder conversations are not valued and even minimized among senior managers. F. Kennedy (2012) suggests leadership from a social constructionist perspective “requires working with the dynamic territory *in between* people and this territory is shaped through conversations. Conversations ‘carry’ the nuances and possibilities of how people frame, reframe and respond to leadership problems” (p. 89).

In the course of my doctoral studies, I have come to see that conversations are actions that have a real impact. They might be the single most important action a leader performs. Conversations have the power of shaping the future of the organization. But conversations are actions that happen with other people. A leader who is “heads-down,” hiding out in their office, and not engaging with their team is missing a significant opportunity for helping shift their organization towards whatever goals are important for that particular context. In business terms, conversations have helped me save millions of dollars and retain high quality talent, because I learned about the power of conversations to create new context and establish meaning with others in my organization.

The purpose of this chapter is to provide an overview of social construction as a meta-theory and as an overarching lens for my inquiry into relational leadership and technology management. I will provide the foundation of the theory, while comparing and contrasting it with the more traditional views of knowledge and reality. After providing several ways of defining social construction, I proceed to describe the strengths, limitations, and critiques. As a

scholarly-practitioner, I continue to weave a personal narrative by sharing my experience of learning about and working in a social construction context in my professional field (Nash, 2004). Referring back to Nash and Bradley's (2011) SPN guide, this chapter is part of the Research component of scholarly personal narrative inquiry. What I have discovered, based on the review of the literature and my reflection, is that social construction has many practical applications in both leadership studies as well as in the everyday interactions in organizational settings (Cunliffe, 2002). Social construction is also a philosophical lens that informs and underpins my understanding of relational leadership and how humans communicate and coordinate activities each day (Hosking & McNamee, 2006).

I have selected this philosophical approach to help me explore my research question: How can a new conception of relational leadership for DevOps practices provide new possibilities for being in this new age, where technology plays such a fundamental role in most businesses? Because my work inquiry includes dimensions that are theoretical and conceptual, as well as practical, social constructionism is a good approach for connecting my lived experience, theoretical knowledge, philosophy, and practical knowledge in the domain of IT management and the evolving organizational concept of DevOps.

### **Reality Constructed**

The opening lines in this chapter offer a strange view of the world when one first encounters it. Whereas most contemporary people think of the world they inhabit as a permanent and fixed reality, there is an idea that our social reality is far more pliable. In the opening lines above, two people observe the same situation. Yet, they come away with two different conclusions about the possibilities of their respective situations, or as they would say their reality of what exists "out there" for them. The conclusions, whether it is an opportunity or the situation



is hopeless, will surely have significant outcomes for that person's future. And these will not be just metaphysical consequences. Rather, the impacts will be real and experienced beyond just our language or stories of what happened. For example, seeing the situation as hopeless, one marketing person will return from the trip resigned and seeing no way to get her shoes into a new market. This person might quit all together or see their incomes and businesses shrink. The other marketing scout has just discovered a large and unfilled market. We can only guess that this person will get to work on developing a strategy for selling millions of new shoes, perhaps designing shoes that are affordable and more appropriate for that market. The conversations and interactions that each marketing scout will have with others in their firm will also be quite different. One might be full of hope and enthusiasm, while the other will take a more pessimistic outlook of the future. As will be discussed later, knowledge and social action are interrelated.

Why does this happen and how do we explain such a phenomenon? In many relationships, both personal and professional, we often have different reactions and conclusions to what we observe as reality. If reality is fixed and objective, then why is it possible that we can often feel like we are living in completely different worlds from each other. This phenomenon is amplified when we observe political parties, global conflicts, or in intimate relationships between spouses or partners. This is where the liberating power of social construction can be applied to challenge existing ways of thinking, seeing, and ultimately knowing our social world. Using a social constructionist lens, we can begin to ask and challenge our everyday taken for granted reality, and ask, does it really have to be so? (Gergen, 1985). As I explore social constructionism and provide the background ideas and assumptions that have led to the rise of this way of thinking and the methods in the social sciences, I will show why this approach is especially helpful in organizational contexts.

### **“The Woman on the Boardwalk”**

In downtown San Diego, along the waterfront, my wife and I were walking and enjoying a breezy sunny Sunday afternoon. A disheveled looking woman was talking to herself as she walked along the boardwalk. Tourists and others were staring, glued to the odd behavior. At one point she began yelling, “You call this reality? This is not reality!” Onlookers smirked and made funny faces as they passed this woman. Perhaps because I had been deeply immersed in my studies, or just developed a sensitivity to listening differently, I found her question not crazy at all.

This is a question I have asked over and over again in the different organizational settings where I have worked, primarily managing technology organizations. Each organization has a particular culture, with a fixed set of beliefs about “the way the world is” with regards to the customers, the products, technology, and a host of other issues. While some may have dismissed the ranting’s of a mentally disturbed woman, there is perhaps some deeper truth to looking at the current structures of our organizations and ask that rare question: “Do you call this reality?” Or as Gergen (1985) suggests, “Does it really have to be so?” This chapter is an invitation to look at the world with a new sense of vision and, rather than reject or accept ideas, consider the possibilities.

### **What is Social Constructionism?**

Before exploring some of the ways theorists have described social construction, I will begin by outlining the predominant worldview prior to the rise of social construction as a meta-theory. The predominant worldview or paradigm that has fundamentally shaped Western thought of knowledge and science for the past several hundred years can be best described as positivism based on logical empiricism (Hibberd, 2005). It shapes the taken-for-granted

worldview of most people living in a shared Western culture (Kezar, Carducci, & Contreras-McGavin, 2006). Yet, until I enrolled in a graduate program, I had never heard of positivism as one method for understanding reality and generating knowledge (Harding, 2003). It was never explained in a way that indicated it was but one of several approaches to knowledge. Since elementary school we are taught the “scientific method” as the only acceptable approach for understanding, explaining and predicting our world (Gergen, 1999). Social constructionism as a meta-theory is not the commonly held view, and one may never hear of it as part of the popular discourse outside of higher education.

### **Modern Western Cartesian Worldview**

The Cartesian worldview, named after Rene Descartes, can be summarized by a few potent ideas that remained unchallenged for several hundred years, until more recent developments in philosophy, language, and philosophy of science questioned the essence of reality and the process for generating scientific knowledge (Kuhn, 1970; Rorty, 2003). The five following points provide an overview of the Cartesian worldview as I have come to understand it reading the literature.

1. There is a world that is objective, fixed and real. The truth is available and waiting to be discovered.
2. We can use our senses and rational abilities (logic) to understand and deduce what’s out there, since it exists independent of ourselves (subject/object).
3. The “hard sciences” have developed a method for conducting scientific inquiry, which has led to many discoveries. This method is appropriate for studying any phenomenon, from physical sciences to the human sciences.

4. Based on reviewing the facts that exist out there, most reasonable people will arrive at a similar conclusion, which allows us to predict, control and manipulate our environment. Domination and control are valued and seen as a worthy outcome.
5. Language is a tool used to describe things as they are. In other words, its primary purpose is to describe what's "out there." We use language to send and receive information, just as a computer can send and receive data from other computers in the same network. The focus is on inputs, outputs, and feedback.

As I will be describing later, the Cartesian worldview includes multiple dimensions: ontological, epistemological, and specific methodologies for accessing what is "truth."

### **The Problem With Defining Social Constructionism**

Stam (2001), in the opening introduction to the special issue of *Theory and Psychology* on social construction, writes of the challenges of how to define social construction. He asks, "What is social constructionism? Sometimes called a movement, at other times a position, a theory, a theoretical orientation, an approach... at its most general it serves as a label denoting a series of positions" (p. 294). Like the term "leadership," social construction does not have a single authoritative definition. There is no single person or school of thought that exercises exclusive control of social construction.

Given the nature of social construction, it should be no surprise there is not a singular construction for defining social construction. In many articles, Gergen (1999) invites readers into a dialogue about the truth behind claims, definitions, and constructs. To stay true to the spirit of social construction, I will be offering several ways of describing this to show the multiple ways of conceptualizing this term. This is meant to be the start of the conversation, rather than the final word, since it is open to interpretation and I imagine will continue to evolve. In this

section, I provide several characteristics of social construction that have been offered by the thinkers and scholars who are most often credited with developing or exploring the construct in their work. Table 5.1 provides key characteristics of social construction. These can be seen as Stam's (2001) core positions of social constructionism.

Table 5.1

*Key Characteristics of Social Constructivism*

Defining Characteristic	Summary
Challenging that which is taken-for granted	In any social domain, social constructionists challenge the status quo and critique social systems, seeking new alternatives to existing structures. Many subjects have been critiqued using social constructionism (e.g. social construction of gender, race, capitalism, drug abuse, sexuality, etc.). Critical management studies (CMS) has produced great insights by challenging the taken-for-granted in organizations (Alvesson, & Willmott, 1992).
Historical and Cultural Impact	Culture and history play an important role in our understanding of our social world. Much of what we define as "real" is to a great degree influenced by our personal and collective cultures and history. From our perspective, North Koreans are hostile and represent the "Axis of Evil." However, from their vantage point, The U.S. is the only remaining superpower that is a bully to other sovereign nations.
Knowledge is a social process (constructed)	Kuhn (1970) was able to demonstrate that knowledge is a social process that is generated in language with other people. Unlike empiricists, the data is not just out there waiting to be discovered. Knowledge is constructed and sustained in relationships with others. Education plays a significant role in communicating the "right" knowledge that is consistent and accepted as the correct way of seeing the world (See Historical and Cultural Impacts above).
Knowledge and social action are interrelated.	Actions of a group of people depend greatly on the knowledge that is based in that community. Whether one thinks the world is flat or the world is round will lead to different actions and outcomes.
Ontology	There is not a singular reality that is fixed and knowable by all. There are multiple realities that are local and specific to the relevant social group. Reality is <i>constructed</i> with others in conversations. This blurs the epistemology with ontology; what is known with what is constructed by the social actors.

## Social Construction Defined

Using the *Web of Science* search engine, I was able to find 1,787 articles that included Social Construction within the title of the article, and over 4,000 articles returned using social construction as a keyword. Many of the articles I reviewed had different operational definitions, depending on their area of inquiry. Hacking (1999) writes,

Social construction has in many contexts been a truly liberating idea, but that which on first hearing has liberated some has made all too many others smug, comfortable, and trendy... The phrase has become code. If you use it favorably, you deem yourself rather radical. If you trash the phrase, you declare that you are rational, reasonable, and respectable. (p. vii)

Hacking published his book in the midst of the “Science Wars,” where natural science researchers with an objectivist perspective and social scientists using a qualitative, interpretivist lens were arguing for why their approach is most appropriate for creating knowledge (epistemology) and protecting the overall enterprise of episteme and techne (Bentz & Shapiro, 1998; Flyvbjerg, 2001; Segerstrale, 2000).

Social construction can be described as a paradigm or a meta-theory, that suggests reality itself, or at least our knowledge of it, is wholly, or in part, the product of our own actions and social interactions with others. Kuhn (1970) developed a new approach to understanding scientific revolutions and the changes in the scientific community’s thinking over time. He was curious about how researchers made scientific progress and challenged the common view that knowledge is cumulative and builds upon itself like building blocks. In an indirect way, he demonstrated how paradigms were not merely the outcome of accumulation of knowledge, but rather a shift and reconstruction of prior knowledge. Kuhn (1970) writes,

That is why a new theory, however special its range of application, is seldom or never just an increment to what is already known. Its assimilation requires the *reconstruction* of prior theory and the re-evaluation of prior fact, an intrinsically revolutionary process that is seldom completed by a single man and never overnight. (p. 7)

In this way, Kuhn offered a new vision of epistemology that was not based on a fixed reality, but one that is based on shared beliefs inside a community. In his case, it was a scientific community. His book became a widely cited work in the social sciences because it provided a radical perspective and liberated social science researchers to challenge the taken for granted assumptions of doing scientific work. It should also be noted that many scholars protest the social scientists' interpretation of Kuhn's work and insist he was not a social constructionist or would have approved of their interpretation (Wray, 2011).

Social constructionists belong to a spectrum of belief about how much of reality is constructed. Commenting on the varied users of social constructionism, Danziger (1997) wrote,

Overall, the field lends itself to the image of a loosely knit network. There are clear links among some of the parts, but no two contributors share exactly the same set of concerns or background assumptions. Sometimes the links are quite superficial and even misleading because different contributors will use similar terms in ways that diverge fundamentally from each other. (p. 401)

I started by offering the Cartesian view because most constructionists have critiqued the conventional way of seeing the world and began to co-construct a different discourse that proposes different knowledge claims.



*Figure 5.1.* Social Construction: “Reality” is shaped by forces such as language, culture, history, and social interactions.

As I was creating Figure 5.1, I reflected on my own experience as an immigrant leaving my homeland as a child. I was born in Egypt and my reality in that country was drastically different than my life in the United States. I was a product of a predominantly Muslim culture and customs, Arabic language that expresses ideas differently, and interactions with other Egyptian boys who were also zealous nationalists. My ideas, expectations, thoughts, and, more importantly, what I thought was possible was shaped by that history and social interactions. My everyday way of being in Egypt represented a different life. When I moved to the U.S., I had to unlearn many things because they were inconsistent with the American reality.

### **Grounding Assumptions**

The following section will introduce important grounding assumptions that underpin social constructionist thinking. These include language and social interactions. Our understanding of reality is constructed in conversations in relationships with others.



## Language

Rorty (1979) wrote about the “picture theory of words” (p. 14), which is the theory that the mind is a mirror that reflects attributes of the world and captures them into words. This view has become the predominant view of expressing our understanding of language. As human beings, we are constantly living in language like a fish lives in water and birds fly in the air. Humans do not think about it on a moment-by-moment basis, because it is in the background of our understanding, hidden by our commonsense. It is something we take for granted each day without much reflection or thought (Held, 2002). We do not notice we are linguistic beings in the same way most people do not notice they are breathing or their heartbeats; it just happens. In this sense, language is a broad construct and includes all of the listening and speaking that occurs. It also includes all of the internal conversations humans constantly have with themselves about their desires, fears, likes, and dislikes. In many ways, the world and personal lives are composed of many stories, “narratives,” about who we are, what happened in our past, what’s going on in our present, and what it is we anticipate in the future (Brothers, 2004; Winograd & Flores, 1987).

Language does not only have to be verbal. People (especially leaders) also communicate by the way they dress, the way they move their bodies, and how they “show-up” to others, as in when we say, “It was his body language that told me he was disappointed in the last quarter’s financial results.” Again, language is all around us and there is no escaping it. Language is fundamental and constitutive of who we are as human beings. Sieler (2003) put it this way “Humans are linguistic beings” (p. 8). Social construction ideas are based heavily on the linguistic turn and the importance of language in constructing our social reality in relationships.

Maturana and Varela (1987) make the case that language is fundamental to what it means to be a human being from a cognitive-biological point of view:

The living system, at every level, is organized to generate internal regularities. The same occurs in the social coupling through *language* in the network of conversations which language generates and which, through their closure, constitute the unity of a particular human society. (p. 232)

Maturana and Varela are suggesting that social construction is biologically rooted and has grown out of a “social coupling” of many conversations that have occurred over time. Theorists don’t deny that language itself is a social construction (based in historical discourse, culture, social interactions, etc.). At the same time, language is the way we construct what we call our coexistence in social communities.

### **Social Interactions**

In my company, performance reviews and merits are performed in the first quarter of each year. During that time, an interesting phenomenon occurs. Some employees have positive social interactions with their manager and, after the conversation, engagement and productivity typically increases. It is a sense that I get when I walk into the workspace of an engaged person; the energy level is higher and there is a strong willingness to collaborate and be committed to the organization’s outcomes. But some other interactions between manager and employee don’t go so well. The employee may walk away with an interpretation that she is not valued and perhaps the effort, sacrifices, and deliverables were wasted on the manager performing the assessment. All of that can change in one conversation. The entire outlook of that person and how they experience work has fundamentally shifted. Some employees remain and attempt to repair what they see as a misinterpretation. Others give up and begin searching for a new job opportunity. Social construction places a strong emphasis on the everyday social interactions that take place between people in business, communities, families, and, in fact, most social units. Culture can be described as the values, beliefs, and the unwritten rules regarding what’s accepted in a social system (Cameron & Quinn, 2011). Social interactions are the building blocks of an

organization's culture. Describing culture, Schein (1992) writes, "Culture is both a 'here and now' dynamic phenomenon and a coercive background structure that influences us in many ways...Culture is constantly reenacted and created by our interactions with others and shaped by our own behavior" (p. 3).

### **Philosophical Underpinnings**

In this section, I explore philosophical underpinnings and provide an overview of how social constructionist approaches differ from the more predominant way of understanding reality.

#### **Cartesian Ontology**

*Ontology* deals with the study of being and human existence (reality). Although the study of being has been investigated for thousands of years, starting with Plato, it remains a vital issue for thinking about leadership practice, as well as conducting social science research. The positivist or Cartesian researcher maintains social reality is concrete and fixed. Bentz and Shapiro (1998) explain the positivist ontological view by noting, "The world and knowledge are structured *atomistically*. That is, reality consists of a collection of disconnected facts, and experience consists of a bunch of disconnected perceptions or observations" (p. 28). A Cartesian view of the world can be explained as a state that operates like a rigid machine or a clock with various gears that turn precisely to measure each second. Since the 17<sup>th</sup> Century, this has been the predominant Western perspective and it has proved potent in the physical sciences and technology. This ontology has given rise to the belief humans can use their senses and rational faculties to predicate, control, and manipulate most things they can observe. In many domains, this ontological perspective has produced benefits and also introduced what Heidegger, et al. (2008) calls "breakdowns." Breakdowns occur when what we take for granted is not present as expected, so our thoughts and intentions are turned to that which we were not previously

conscious about. For example, during this last economic downturn many people were negatively impacted and lost their jobs. Many other breakdowns were created due to the sudden drop in income. One explanation is that in the background of a Cartesian mindset, we believe that hard work, experience, and being a good employee will lead to lifelong employment (i.e. reality is more fixed and objective). What many employees discovered is that companies care about employees who have the knowledge that is most current and relevant for their business today. Without staying technically current, employers lay off the older generation and shift their investments to younger employees. This breakdown exposes what was once taken for granted, forcing many people to go back to school to study, earn a degree, or a certificate in something more relevant to the current competitive business practices.

### **Critique of Social Constructionism**

Critics point out that to take social constructionist thinking to its limits creates epistemological issues that are difficult to defend. They find the following issues most concerning:

1. Scientific knowledge (facts, theories, and “truths”) are socially constructed. This denies the materiality of principles and the physical properties of things that have been discovered by the scientific community.
2. The scientist’s own beliefs of what constitutes true science is also socially constructed.
3. The very scientific standards, accepted rules for observation, and theorizing are also socially constructed. (Fagan, 2010; Kuhn, 1970)

The critics of social constructionism often misunderstand ontology from a social constructionist perspective. As was described above, social reality is constituted in language and becomes real in the everyday interactions we have with each other.

A story is told of an anthropologist lecturing about an African tribe he had recently visited and said, “Because the tribe I studied did not have the word for orgasm, it was nearly impossible for the men and women to experience it during intercourse.” A positivist scientist upon hearing this absurdity, raised his hands and asked, “What if they did not have a word for oxygen. Would they still be able to breath?”

Many critics highlight the limitations of social constructionism by claiming that it oversimplifies a complex set of issues dealing with objects that exist independent of us. Most social constructionists do not completely reject the existence of everything except language and they often point out that the focus of social construction is on that which is political, ideological, cultural, and social. Trying to force social constructionism and applying broad brushstrokes can have severe consequences (e.g. arguing that air pollution is a social construction).

Cromby and Nightingale (1999), who profess to be social constructionists, raise several issues with the radical way of viewing social constructionism that places all emphasis on discourse, language, and social interactions. Two primary objections are embodiment and materiality. They suggest, “The intense focus on language and discourse has served social constructionism well so far”, but they warn “Continuing to ignore or downplay embodiment and materiality may eventually create the conditions for the tide of knowledge and practice to simply sweep social constructionism away” (p. 14).

### **Embodiment (Ignoring the Body)**

I recently fell ill with laryngitis, yet I continued to go to work and attempt to lead my teams and the many projects that are running simultaneously. After one frustrating day trying to speak, I woke up the following morning with no voice. It was incredibly humbling, because I realized that without a capable body, in this case an ability to speak, I was severely limited in what I can do as a leader. Even though discourse, social interactions with others facilitated by language, stories, and meaning-making, are fundamental to shaping our social reality, there is little emphasis placed on our bodies. Some social constructions talk about bodies, as a critique of western notions of beauty, art, and health, but social construction theorists seems to ignore the importance of our bodies in shaping our world. Cromby and Nightingale (1999) argue:

Not only does constructionism have no notion of the body to call its own, it views other approaches to the body with deep mistrust, branding them as biologicistic, cognitivist or essentialist. It then has little choice but implicitly to reduce the speaking bodies we meet and find ourselves to be to mere discursive traces, transcribed echoes of their actual fleshy substance. (p. 10)

### **Materiality (Ignoring the Physical in the World)**

When we are born into this world, we emerge with bodies as mentioned above, but we also inhabit a physical space of materiality. There is the sky, mountains, dirt, and trees. These material “things” exist outside of our constructed world. The natural world, as well as technology like the Mac Book Pro I am using to write these words, exists alongside (or near) the discourse or language, or conceptual understanding of computers. Cromby and Nightingale (1999) argue this is an important issue that should not be ignored:

Materiality matters because it both creates possibilities for, and puts constraints upon, the social constructions by and through which we live our lives. Most fundamentally, the ecosystem which supports life, is a necessary precondition for any and all social constructions, discursive or otherwise. (p. 12)

Maturana and Varela (1987) argue for finding the middle road and accept that there is something else besides the text:

The world which we bring forth in our coexistence with others [social construction], will always have precisely that mixture of regularity and mutability, that combination of solidity and shifting sand, so typical of human experience when we look at it up close. (p. 241)

### **Epistemology**

The question of epistemology asks what exactly is knowledge and how do we know what is so? For the past several hundred years, the Western notion of “true” knowledge was that we can only trust our senses and our mental faculties, but not our intuition or emotions (Scheurich, 1997; Wilberg, 2003). Furthermore, true knowledge can be observed and measured using our senses, logic and reasoning. The human brain is capable of induction, based on careful observations and continual experimentation. The historical tradition of empiricism is still strong and can be experienced each day in elementary schools, where children are mostly educated using a positivist orientation towards epistemology as the only effective mode of understanding.

However, if one broadens the scope of how humans come to know something, a host of approaches present themselves as new and refreshing ways of inquiry. The interpretivist approach does not seek an objective truth so much as to unravel patterns of subjective understanding. The latter assumes that all versions of the truth are shaped by the viewers’ perceptions and understanding of their world. These interpretivist approaches are considered phenomenological because they access the lived experience and consciousness (Merleau-Ponty, 2002; Schutz, 1967; Van Manen, 1990). Phenomenology, as Van Manen (1990) defines it, is “the systematic attempt to uncover and describe the structures, the internal meaning structures, of lived experience” (p.10). To contrast phenomenology with a positivist/empiricist approach to knowing, Van Manen (1990) suggests,

From a phenomenological point of view, we are less interested in the factual status of particular instances: whether something actually happened, how often it tends to happen, or how the occurrence of an experience is related to the prevalence of other conditions or events. (p. 10)

Heidegger, et al. (2008) not only introduced a new understanding of ontology, he also demonstrated the power that lies behind phenomenology. Given the focus on thick description rather than explanations, phenomenological approaches are great at surfacing deep issues and making voices heard, especially those that are at the margins (Merleau-Ponty, 2002; Schutz, 1970).

### **Methodology**

The question of methodology arises out of our core understanding of ontology and epistemology in a social constructionist context. For example, if one believes that reality is fixed and what's out there is unchanging, a certain objectivist epistemological understanding is used to view the world and what is observed. This leads to a worldview or paradigm of a scientific laboratory where careful experiments and manipulation of variables is the only appropriate way for generating new knowledge and discovering or explaining phenomenon. That particular example is a purist positivist view. Although there are purists, the two extremes are not the only possibilities that exist.

### **Conclusion**

This chapter explored the ideas behind social constructionism. Its purpose was as a general introduction to an important shift in thinking that has had a positive impact on social science research (Bentz & Shapiro, 1998; Gergen, 2011). What follows are my reflections based on my review and understanding of the literature.

The social constructionist view of organizations is potent and has immense potential for improving how managers work with their employees and for employees working together as



teams and functions. There is a growing body of literature that spans multiple domains, where theorists are questioning taken-for-granted realities in society. Social constructionism does not deny the existence of things such as the stars, mountains, or the real pain of a hammer that accidentally hits one's thumb instead of its intended target. Rather, it asks us to challenge and think about the social order of things. Does it really have to be so? Social constructionism invites us to challenge what we take for granted as the "natural order" of organizations and society. By using this paradigm, we can ask questions like: Why do we treat employees like human resources rather than human beings? What happens when we look at human beings as resources that can be added or removed? What about the language we use in conversations with each other, such as military terms like "in the trenches," "I need a few good lieutenants," and "can you provide me air cover during this meeting?"

As a reflective scholarly-practitioner, I am interested in sound theory and also in pragmatic solutions to today's corporate organizational challenges. Social constructionism offers both a theoretical framework for seeing how social systems are constituted, as well as practical ideas, in that it liberates me from thinking I have few or no possibilities in specific situations. If the world is not a hardened set of objective realities, which leaves an opening to creating new social systems that treat human beings with more dignity and respect. This is one of the ways we can reduce the immense suffering of people working in toxic work environments (Kusy & Holloway, 2009). The power of social constructionism is to challenge the existing social conditions and systems in place and ask if this is the only way we can hold an organization. In that sense I am thrilled about the potential and possibilities for conducting research using social constructionism as a framework of inquiry.

Researching and writing this chapter has reinforced the importance of understanding and appreciating the different methods of inquiry. This requires cultivating a philosophical mind, or becoming a practical philosopher (Bentz & Shapiro, 1998; Cunliffe, 2009b; Kezar, 2004a). Reflective scholarly-practitioners who cultivate a philosophical perspective are better able to critically assess the results, methods, and modes of research. It is the responsibility of the researcher to use a mode of inquiry that has integrity and is consistent with the epistemological and ontological understanding of the researcher. Finally, my study of social construction helped me learn to appreciate different modes of understanding and looking at the world. There is a risk of falling into an essentialist view and only perceive the world through a limited perspective, rather than being open with a sense of wonder about our world and the unfolding of our understanding.

This chapter has focused on exploring social constructionism as a broad worldview and the philosophical underpinnings of that approach. Now that I have established this foundation, I will build on the constructionist approach by focusing on relational leadership in general and the ways it intersects with DevOps in an IT context.

## Chapter VI: Relational Leadership

Nash and Bradley (2011) suggest SPN studies should start with a nagging feeling or a belief about something that cries out for a deeper examination. Unlike traditional research approaches, SPN is not about seeking a “gap” in the literature and try to “fill it” from an impersonal, detached posture. My organizational experiences, which included moments of triumph and rich learning, as well as times of doubt and failures, have led me to examine leadership theories and practices and positing my research question: How can a new conception of relational leadership and DevOps practices provide new possibilities for being in this post-PC era, where technology plays such a fundamental role in most businesses?

After the initial excitement and enthusiasm of entering the workforce and earning money for performing tasks that I already loved doing, I began to feel unease about technology management. As I learned and grew professionally and earned promotions to higher and higher management roles, I was confused and concerned by how senior people were leading and managing the organization. Even when I was copying my superiors’ behaviors and actions, I was bothered by the way employees were being reduced to machines that can be directed by reward or fear of punishment. Without knowing it at the time, the Cartesian philosophy of management was being enacted each day and I doubt if the managers themselves recognized it as such.

There was a defining moment when I was consulting at a large financial institution in Los Angeles. A serious computer virus had entered the company through an email with the subject line “I Love You.” The virus was brilliant in that it relied on human’s psychological needs to discover who the admirer is by clicking on the email, thus releasing the virus (social engineering). The “I Love You Virus” quickly spread, infecting thousands of computers and causing a significant disruption across the company. My team and I were responsible for quickly

assessing the situation and developing a plan to quarantine and clean the machines and restore the PCs so the employees could return to their jobs. One of the senior managers in the IT department got angry and began shouting obscenities while we struggled to understand the seriousness of the virus. The virus was effectively shutting down the business, so the pressure was understandable. Since the manager was my client, I tried to focus on my task while he berated us. He continued to threaten us about terminating the consulting agreement and the hundreds of thousands of dollars' worth of services we were delivering to his bank. I also got heated and started to raise my voice and speak more firmly. I finally pushed back and asked that he not scream at us since we did not cause the problem and were working as fast as we could to resolve the problem. Surprisingly, he listened and walked off. I later apologized for responding to the confrontation, and he also apologized for "getting a bit too excited."

This was one of those defining moments in my professional career because I learned that it is okay to stand up and be courageous, regardless of the employment consequences. It also allowed me to see an existing model of leadership that relies solely on punishment, fear, and seeking to please the angry boss, was blocking the amazing capacities people had and were not able to express fully at work. Unfortunately, this experience became the norm for me in IT. I saw this situation happen over and over again.

We are born into traditions that are always already at work within a structure anchored by a discourse (Heidegger, et al., 2008; Leonard, 1989). One of the first lessons I learned about technology management and leadership was to watch my bosses interact with me and others. What I recognized as the way to manage people is what Flaherty (2011) calls the "Amoeba Theory of Management," which refers to the single-cell protozoa that responded to only two

different types of stimuli, sugar or being poked by a needle. He suggests human beings are more complex than what we have seen in the high school biology classes with the Amoeba.

The more I have reflected on my experiences in IT, the more I have seen how deeply ingrained the idea humans are mechanical and employees will either respond to pain (fear) and rewards has become. Other language that is often used in management conversations is the “carrot-and-stick,” which has its roots in dealing with domesticated animals, like a donkey. I learned about the Amoeba theory of management not as one possible approach, but really the only correct way to manage people. I am not discounting behaviorism insights of Pavlov, Skinner, and Watson, but I am claiming this has become the taken-for-granted view of how people behave in all contexts, especially in a work environment. The Amoeba theory of management can seem effective in the short run. When people are threatened or enticed by a reward it can certainly impact behavior, but it does not have long-term effect. Many of us have experienced the overbearing boss who micro-manages our tasks and insists people work ten hours each day. However, the long-term impact is that when the boss is gone or out of sight (the stimuli) the behavior or performance is degraded. This was the case for me while I consulted and worked for the manager who operated by threatening and bullying everyone around him. His behavior and attitude did not make me work harder; on the contrary, his fear-based approach caused me to be nervous and agitated, which means I opted for the most conventional approach to solving the problem. Innovation or creativity was not a possibility in the context he created for us.

The other challenge with Amoeba management is that people are much smarter than the amoeba and will figure out how to give the perception of performing the behavior so they can get the reward. For example, I once had a manager comment that my employees were not in the

office early enough in the morning. After offering the many reasons why I did not think it was important, especially since I knew they were up very late at night doing work, he insisted that they still show up to the office. To avoid the negative behavior, people would show up and appear to be functioning and working, but they were not effective.

The other challenge with Amoeba management is that people stop thinking for themselves. “If the boss is going to tell me how to do my job, then why should I think about it or try to self-correct?” This question has been posed many times by my staff and I have also thought about it many times. I am reminded of a time when I joined a technology group and attended the daily morning meeting. I noticed the front line managers were not sure what to do and were literally waiting for instructions for the day. It was later explained to me the former manager would provide the “marching orders” each day and ask the managers to execute them. Once that manager was removed, the people lost their sense of direction because they are not empowered to generate actions and priorities for themselves. Flaherty (2011) writes,

the amoeba theory eliminates the chance for people to be self-generating because their ambition and curiosity are crushed, since any unauthorized initiatives or unsanctioned relationships are thwarted. All attention must be on only those actions that lead to the immediate cessation of the pain or the immediate acquisition of the reward. The immediate is worshiped. The building of the long-term competence is thwarted. (p. 7)

In this chapter, I will share what I have learned about relational leadership and why it has the potential to shake the foundations of the amoeba theory of management that is often taken-for-granted approach as the de facto way of dealing with employees.

### **Relational Leadership and the “Culture of Unconditional Love”**

**Relational Leadership in Action.** Fernandez (2014), a partner at the executive search firm Egon Zhender, shares a story of his experience in a corporate culture he calls “culture of unconditional love” (p. 1). He writes that when he first opened a local Egon Zhender office in the late 1990s in Buenos Aires, the executive search consulting practice was delivering the largest

revenue gains per capita for the whole worldwide firm. He and his team delivered this performance consistently for five consecutive years. It was a period of unprecedented growth in Argentina and the firm grew as a result. As often happens in business and economic cycles, Fernandez-Araoz fortunes turned in 2001 when the entire Argentine economy collapsed. Recalling that bleak period, he writes, “Over 12 days, five different presidents took control...One bank lost more money in a few weeks than it had accumulated over the previous century” (p. 1). A year later in 2002, Fernandez attended the annual partners’ meeting and when it became his turn, he stood up and delivered a sobering account of the situation in Argentina. In his candid manner, he informed the rest of the partners that the stellar growth that was enjoyed in Argentina would most likely never be repeated again. He paused and said that in another year, he would be able to assess the future prospect and decide if the firm should even keep that office and staff, or whether to close it and exit the Argentina market (Fernandez, 2014).

Fernandez (2014) continues,

As soon as I finished, one of our Dutch partners, Sikko Onnes, stood up and said: “Claudio, if I understand what you are implying, you are totally wrong. Our partnership has benefited from the extraordinary contribution of your office for well over a decade. Now it’s the time for *us* to support *you*. Your only job is to go back to the Buenos Aires office and tell every single member of the consulting and support staff that they all have our full and unconditional support.” The whole group then stood up and applauded. I tried to thank Sikko, but I couldn’t because I was in tears. What I felt then, from my colleagues, was unconditional love. (p. 2)

This type of story, or more specifically an organizational narrative, illustrates the power of relational leadership, grounded in a constructionist perspective. It demonstrates how strong relational connections can influence and help shape and construct a great culture that drives high performance. Egon Zhender is the third ranked executive search firm in the world and has continued to grow in both revenue (\$663 million in 2013) and adding consultants over its fifty year history.

Relational leadership is not just about creating a nice country club culture, but one that attracts, retains, and encourages people to deliver their best performance at work (Campbell, 1992; Cherniss & Goleman, 2011; Zehnder, 2001). As I will explore later, this story also provides insights that this form of leadership theorizing has a strong moral and emotional dimension. Relational leadership is not based on the law of the jungle or the supreme power of the free hand of the market. The other important observation that arises from this story is how relational leadership “shows up” in conversations, in the moment, as situations unfold. Leadership does not follow a rationalistic linear approach as it is often depicted in the popular press. The partner that offered unconditional support was not applying a set of techniques or tips or tricks. His response was an expression of his way of being-in-the-world, and as a relational responsive actor (Cunliffe, 2002; Shotter, 1993).

In this chapter I echo Drath’s (2001) provocation that “nothing less than a revolution of the mind is required, a shift in order of thought, a reformation of how leadership is known” (p. 124). The aim of this chapter is to enter into dialogue with the scholars who have been helping shape and frame the need for a new conception of leadership based on a relational leadership ontology that is underpinned by social constructionist lens.

### **Chapter Overview**

In this chapter I review the relational leadership literature. In addition to conducting an exhaustive view of the literature over the past 30 years, I have found the volume edited by Uhl-Bien and Ospinia (2012) to be particularly useful in providing a broad view of the field and making certain paradigms and their assumptions explicit, whereas the researchers’ ontological and epistemological stances are either not mentioned or well-articulated. Their book, *Advancing Relational Leadership Research: A Dialogue Among Perspectives*, included 30 of the leading



thinkers from objectivist and interpretivist orientations. This book also attempted to bring together the entity, or individualist, view of relational leadership along with a constructionist perspective. The editors argued for working across the disciplinary and paradigmatic boundaries and integrating the different perspectives, rather choosing a side. Uhl-Bien and Ospina (2012) favor what they call *paradigm interplay*, which “recognizes the value of heterogeneous assumptions and insights from multiple perspectives for advancing understanding” (p. xxxi). While I agree with this approach, and the lofty goals associated with the notion of paradigm interplay, the context for me is that we have been dominated by the Cartesian post-positivist paradigm that is deeply integrated into every aspect of our lives and is not restricted to only leadership scholarship. Since the Cartesian position forms our background, or common sense, of what it means to be a leader and leadership, this chapter will mostly focus on relational leadership from a constructionist perspective.

Hosking (2012) is one of the relational leadership scholars who has focused on dialogue as a core construct to understanding relational leadership. Throughout this chapter, I work to write in a style that enters into dialogue with relational leadership scholars. I do this for two reasons. First, by applying the dialogical practice in writing, I attempt to practice relational leadership as part of the inquiry. Secondly, the notion of dialogue fits well within the scholarly personal narrative (SPN) methodology that attempts to blend and connect the researcher with the phenomenon being researched. The nature of my inquiry requires that the lived experience and the conceptual intermingles so I am able to articulate practices that are pragmatic and can help leaders and managers support the DevOps revolution that is underway.

To begin, I provide a summary of the conventional leadership theories and describe where the different schools of thought attempt to place the source of leadership (locus of

leadership). This section is meant to provide a high-level view of some of the key theories of leadership. I adapt Gronn's (2002) distinction between ontological, observational, and analytic units as part of the discussion in section one.

I then speak to the issue of language. When one first learns to speak a new language, in the early stages of using that new language, there is a process of translation that happens inside one's mind before answering or responding in the new language. This happened to me when I was first learning to speak English. I had to first listen to the utterance, perform a translation using my existing mental models of Arabic and English and then make an assessment of what I think I heard and then respond. My research into the social constructionist paradigm and relational leadership has often felt like learning a new language, because we still live in a predominantly Cartesian paradigm, as well as conventional mental models about what leadership and being a leader means. Even though, I have been studying this new paradigm for a few years, I still have to pause and translate, since a constructionist way of being is still my "second language."

Hosking (2012) suggests, "the researcher writes a narrative in the form of a journal article—and does not claim to 'tell it how it (probably) is'—but tells one possible story—recognizing that others could also be told" (p. 474). This is the approach that I take with this dialogue and an open conversation about relational leadership as "one possible story" that is told from a particular perspective.

Finally, I outline the major themes of relational leadership that emerge from the literature. In addition, I describe the ways that scholars have focused on theory development and an orientation to extending research, while other scholarship has focused more on practices.

### **Locus of Leadership: Where Is “Located”**

Fold and Ospina (2011) have developed a helpful framework to describe the *locus of leadership* as the place “where leadership resides; it is the source of leadership or its “epicenter” (Hiller, Day and Vance, 2006); it is where, as researchers, we look for leadership. There are three loci: the individual, the relationship and the system” (p. 9). Over the 20th and into the 21st centuries, leadership studies have focused on these three distinct locations. Each epicenter presents a particular focus: the *individual* or an *entity view* (Uhl-Bein & Ospina, 2012), the *relationship*, such as the Leader Member Exchange (LMX) theory of dyads (Graen & Uhl-Bien, 1995; Uhl-Bien, 2006), and the context, *social system* or in-the-moment situations where it is co-created in conversations with others (Cunliffe & Eriksen, 2011; Gergen, 2009; Hosking & McNamee, 2006).

In this section, I will provide an overview of each of these ideas as a way to create the context for exploring a constructionist view of relational leadership theorized later in this chapter. For brevity, I provide brief snapshots that are most relevant for this inquiry. I have consulted a number of the classic leadership texts and much of my review here is a synthesis. One insight that comes from reviewing the literature is that we have a myriad of scholars working on explaining and unpacking the phenomenon of leadership (Bass, 1990; Bryman, 1992; Bryman, Collinson, Grint, Jackson, & Uhl-Bien, 2011; Day & Antonakis, 2012; J. W. Gardner, 1990; Hickman, 2009; Rost, 1993; Stogdill, 1974). Table 6.1 presents an overview of a selection of the literature that represents each of these locations

Table 6.1

*Locus of Leadership: Individual, Relationship, and System*

<b>View of “Self” Locus of leadership</b>	<b>Individuated self</b>	<b>Connected self</b>
Individual	Skills—Katz (1955); Mumford, Zaccaro, Connelly, et al. (2000)	Connective leadership—Lipman-Blumen (1992)
	Co-leadership—Sally (2002); Hennis & Bennis (1999)	
	Leadership couples—Bennis & Biederman (1997); Gronn (1999)	
Diads	LMX—Graen & Scandura, (1987); Graen & Uhl-Bien (1995)	Relational Leadership Theory (RLT) — Uhl-Bien (2006)
	Relational Leadership—Gittell & Douglas (2012)	Post-heroic Leadership – Fletcher (2004)
	Follower Centered Leadership—Meindl (1995); Shamir, Pilai, Bligh, & Uhl-Bein (2007)	
	Shared Leadership—Conger & Pearce (2003)	
Relationship	Distributed Leadership—Gronn (2002); Spillane (2006)	Relational Leadership—Cunliffe & Eriksen (2011)
	Shared Leadership—Day, Gronn & Salas (2006)	Relational Leading—Hersted & Gergen (2013)
		Constructed Leadership—Drath (2001); Ospina & Sorenson (2006); Foldy, Goldman, & Ospina (2008)
		Discursive Leadership—Fairhurst (2007)
		Processual Leadership—Hosking (1995); Dachler & Hosking (1995)

**Leadership in the Individual**

In this section, I review some of the theories and ideas about leadership residing in the individual. This is meant to be a brief overview, given the large body of literature that exists for each of these theories and constructs. The individual as the epicenter for leadership represents the most traditional and conventional place to look for leadership. Work in this area continues

with both popular and scholarly researchers investigating what makes successful leaders successful.

### **Traits Approach**

Beginning in the middle of the 20th century, early organizational researchers explored managerial and leader traits and behaviors. The trait approach of looking at leader-as-an-individual is quite seductive and intuitive as the first place of inquiry. For example, it is easy to watch the late Steve Jobs perform one of his outstanding product introductions and wonder what makes Jobs “tick” and what can one learn from him so that it can be imitated. Some managers have gone as far as dressing like Jobs, hoping that perhaps his style alone can bring about the innovation of Apple (Kwoh & Silverman, 2012). Another reason why the trait concept is seductive is that people generally like the celebrity status of leaders like Jack Welch, Bill Gates, and Michael Dell. They look at these public personalities, which appear larger than life, and want to mimic them in hopes they can achieve the same business success. After careful review, a number of researchers rejected the traits approach, citing they were “insufficient to explain leadership and leader effectiveness... rejection was widespread and long lasting, and it echoed in most of the major social and industrial and organizational psychology textbooks for the next 30- 40 years (Zaccaro, 2007, p. 6)

Research pursuing the question of traits and looking for leadership with an individual as the unit of analysis have varied and come from many different fields (e.g., psychology, management, and education). Goleman’s (1995, 1998) investigation of emotional intelligence (EI); Goldberg (1990); McCrae and Costa’s (1987) Five Factor personality model; Lord, DeVader, and Alliger (1986); Kirkpatrick and Locke (1991); and Zaccaro, Kemp, and Bader (2004) have all developed theories about the characteristics and traits of effective leaders.

## **Skills Approach**

The second view of the leader as an individual explored the different skills that managers and leaders were required to possess. Katz (1955) was one of the first scholars to publish an article on the necessary skills for an “effective administrator.” Katz (1955) outlined three skills that he believed could be developed and urged corporate executives and human resource managers to focus on what a “man can do” (p. 2) rather than their innate traits and characteristics. He referred to these skills as technical skills, human skills, and conceptual skills. Katz suggested that, depending on the role, certain skills are more relevant and important than others. For example, the CEO needed to have higher conceptual and human skills, and less technical skills, whereas the first-line manager working on the assembly line needed to have higher technical and human skills and less emphasis placed on conceptual skills.

Mumford, Zaccaro, Connelly, and Marks (2000) further expanded the skills approach by defining additional skills and competencies that can be taught and developed in people who hold managerial roles. These skills included problem-solving, social judgment, and knowledge. Part of the premise is that over time, and with experience and training, these skills can be developed, which will lead to better business outcomes for the business and the individual. Although the skills approach is still leader-centered, it provided a new perspective that leaders are not merely born as leaders, but perhaps if certain skills are identified as core or fundamental to doing leadership, then perhaps they can be taught to the masses. I believe this was a necessary development, since corporations were on the rise and businesses and other governmental organizations had a need for a new managerial class of people. Cunliffe (2009a) has provided an excellent overview of what she calls managerialism, providing a historical perspective for this new type of employee in organizations.

## **Situational Leadership**

The last leadership perspective that falls under the idea of focusing on the leader as an individual is situational leadership. Situational leadership was developed by Hersey and Blanchard in the late 1970s. (Blanchard, Zigarmi, & Nelson, 1999; Hersey, Blanchard, & Natemeyer, 1979). The concept is both simple to understand and is practical. Blanchard offered four leadership styles that need to be applied based on the follower's needs. These include Directing, Coaching, Supporting, and Delegating. These styles are a composite of two activities: Supportive (high and low) and Directive (high and low) that the leader increases or decreases, depending on the situation. Again, the focus is still on the leader, but Blanchard and Johnson (1982) does recognize that there is a relationship dynamic also at work. Northouse (2012) summarizes situational leadership by suggesting it is

constructed around the idea that employees move forward and backward along the developmental continuum, which represents the relative competence and commitment of subordinates. For leaders to be effective, it is essential that they determine where subordinates are on the developmental continuum and adapt their leadership styles so they directly match their style to that development level. (p. 103)

### **“My Experience in the Epicenter”**

My personal narrative about this epicenter started when I first became a team leader while holding the role of a senior technology consultant. Although the consultants on my team did not report to me in a formal capacity, the principal of the company asked me to read the book “One Minute Manager” (Blanchard & Johnson, 1982; Blanchard, Zigarmi, & Zigarmi, 1999). This was my first introduction into the field of management and leadership. I read the short book with enthusiasm and astonishment at how “easy” it was to be a manager. From an IT (systems engineering) perspective, it appeared that people operated like computers, where if you need a specific output, you must “program” the input using a specific process. “Easy enough and logical too,” was the conclusion that I drew from the work. Blanchard and Johnson's text was the first

and led me to read other short books in the same series, and pretty quickly, I began to use the language and observe the organization through the eyes of someone following the situational leadership approach.

As I began to apply what I learned from my readings, I ran into situations where the people I was interacting with at work were not responding in the same way that I had read. My employees were not responding in ways that I was expecting them to respond. The One Minute Goals, One Minute Praise, and One Minute Reprimands did not produce the results that were promised in the book. At that point in my management education, I was only focusing on myself as the leader, the orchestrator, or if I was honest, the manipulator of others so they can produce the results that I had desired or that my boss wanted me to produce. The more I worked with my team, the more I began to understand them better and then I realized that each person, depending on their own experience, culture, and background responded differently to my One Minute manager techniques. The people that I had considered unmanageable were, in fact, ignoring the mechanical tips and tricks that I thought were the “management secrets” for influencing people and getting a team aligned and committed to complete a project on time.

This was perhaps the first crisis of confidence that I experienced as a young developing manager and launched my pursuit of trying to better understand this phenomenon we call leadership. Fortunately, my fascination to the study and practice of leadership sustained me and allowed me to keep exploring the topic. This was not only a philosophical or intellectual pursuit, because I also relied on this knowledge to keep my job and to grow as a technology manager.

### **Leadership in the Relationship**

In this section, I will review three other leadership approaches that emphasize not only the leader as an individual, but also the relationship between leaders and followers. These



approaches recognize that without a relationship that connects the followers with the leaders, there can be no space for leadership and followership. I also selected these theories since they were some of the most often discussed and widely recognized in my graduate education, from my MBA to Ph.D. First, I will review Transformational/Transactional leadership (Bass, 1985; Burns, 1978). Second, I will describe Greenleaf's (1970) Servant Leadership (SL), and complete the discussion with Leader-Member Exchange (LMX) (Graen & Uhl-Bien, 1995).

### **Transformational and Transactional Leadership**

Burns (1978) is most often credited with the idea of transformational and transactional approaches to leadership. As he was studying world leaders and historical events, he made the observation that some leaders behaved in a *transactional* way, which he defined as “one person takes the initiative in making contact with others for the purpose of an exchange of valued things” (p. 4) versus *transformational* leadership which is “one or more persons engage with each other in such a way that leaders and followers raise one another to higher levels of motivation and morality” (pp. 19-20). In this manner, transactional leadership can be summarized as “if you follow me and do what I request, I will provide you with an income [economic] and good working situation [social/psychological].”

Bass (1985) built on Burns' work by focusing more on the follower's perspective and argued that transformational leadership engages and motivates followers to do more than they had imagined by “(a) raising followers' levels of consciousness about the importance and value of specified and idealized goals, (b) getting followers to transcend their own self-interest for the sake of the team, and (c) moving followers to address higher level needs” (Northouse, 2012, p. 190). The focus of the transformational and transactional leadership is placed on the leader engaged with and in a relationship with the follower. Researchers studying this approach focus

on individual leaders and managers by evaluating how they measure on transactional and transformational scales, with a focus on being able to establish effective relationship with followers (Bass & Avolio, 1990; Rowold & Heinitz, 2007; Nemanich & Keller, 2007).

### **Servant Leadership**

Servant Leadership has been defined by former AT&T executive, Robert Greenleaf (1970), who first conceptualized the concept as:

Servant leadership begins with the natural feeling that one wants to serve, to serve first. Then conscious choice brings one to aspire to lead...The difference manifests itself in the care taken by the servant— first to make sure that other people’s highest priority needs are being served. The best test . . . is: do those served grow as persons; do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society; will they benefit, or, at least, will they not be further deprived? (p. 15)

As the description above states, the focus of servant leadership is on the leader’s individual behaviors and their attributes towards their followers. One can see the focus of SL in building relationships with followers. The individual “doing the work” is still the leader or the person in charge of the organization. The followers are conceptualized as receivers of the servant leadership, and as recipients, they become more engaged, inspired, motivated and grow personally and professionally (De Pree, 2004, 2008). Greenleaf, who was influenced heavily by his Christian faith believed that leaders should not be self-centered, but work to think about and take care of the other stakeholders (employees, customers, and shareholders). This leadership theory has significant moral and ethical implications for the leaders. The standards of what a leader has to do and be is much greater in this approach versus the others.

Spears (2002) provided further clarification to Greenleaf’s initial essay by providing a set of behaviors that are consistent with servant leadership. Whereas Greenleaf was more descriptive, Spears articulates specific skills that include listening, empathy, healing, awareness, persuasion, foresight, and stewardship. Again the emphasis was to challenge the power models

associated with leadership and shift the focus to leaders as thinking of the “other” first, and demonstrating a commitment to help grow the employees in the organization. Just as transformational leadership is associated with quantitative instruments to measure it, Servant Leadership also has the Servant Leadership Questionnaire (SLQ). This instrument was developed by Liden, Wayne, Zhao, and Henderson (2008), and is currently used in many studies. In SL, the focus of the study is on the individual leader building high quality relationships with the “other,” and is an essentialist leadership approach (Kezar, 2004a). SL is presented as a universal set of principles that can be applied in any situation or context. As I will discuss later, constructionist researchers tend to eschew essentialist ideas. As anti-essentialist, they oppose the “one best way” (Kezar, 2004a, p. 110) approach to leadership theorizing.

### **Leader Member Exchange (LMX)**

In LMX, the focus shifts even further to the quality of the relationship between the leader and the subordinate. The entity of research becomes the dyadic relationship. The quality of the relationship will deepen only if the subordinates feel like they are being treated as part of the in-group versus feeling like neglected members of the out-group (Graen & Uhl-Bien, 1995). What LMX provided that the other two theories I described so far is the insights into the dynamics between leaders and subordinates. Later studies in LMX examined how certain dynamics, such as context and empowerment, helped or hindered the effectiveness of the relationship between the dyads. In LMX, the epicenter becomes the quality of the exchange between the leader and the follower.

In addition, LMX pursues two lines of inquiry: how leaders can work to build trust with their employees, as well as how employees can work to develop more mature, trusting relationships with the leader (Nahrang, Morgeson, & Ilies, 2009). Northouse (2012) writes,

LMX theory is noteworthy because it directs our attention to the importance of effective communication in leader–member relationships... it reminds us to be evenhanded in how we relate to our subordinates...[and is] supported by a multitude of studies that link high-quality leader– member exchanges to positive organizational outcomes. (p.183)

Interestingly, LMX is one of the few conventional theories that seem to be the closest to the constructionist approach to leadership. Uhl-Bien (Graen & Uhl-Bien, 1995; Uhl-Bien & Ospina 2012), has been at the forefront of LMX research, has shifted her perspective to encompass constructionist relational leadership theorizing.

In my pursuit of this work, I have come to a broader understanding that each theory provides some view or perspective on the phenomenon we call leadership. Rather than draw artificial boundaries about what is a good theory and what is a bad theory, I would prefer to offer the idea that each theory from the traditional or “conventional” theories to the more radical post-modernist ones are all stories or narratives about what the authors have experienced in their lives. I recognize some of the same authors might sincerely believe they hold the truth or the right way of doing leadership, but I will do my best to refrain from making those types of judgments. Uhl-Bien (2006) suggests, “we are best served not by arguing over whether entity or relational offers the ‘best’ way, but rather by considering how our perspectives will be informed if we view these issues from multiple orientations” (p. 656). Furthermore, I recognize that I am also narrating a story that is linked to how I see my self and my context in organizational life (Ricouer, 1992).

## Leadership as a Social System

Referring to this third location of leadership as a social system, Hiller, Day, and Vance (2006) use the term “collective leadership” as a radical departure from existing conventional theories. They suggest,

The epicenter of collective leadership is not the role of a formal leader, but the interaction of team members to lead the team by sharing in leadership responsibilities. Possessing leader traits, skills, and behaviors is still potentially important to collective leadership; indeed they are helpful and allow one to more easily think like a leader and be an active participant in creating leadership. Collective leadership, however, is not a characteristic of a person, but involves the relational process of an entire team, group, or organization. (p. 388)

A number of different approaches by different scholars belong to leadership-as-a-social system concept. They range from entity to constructionist perspectives (e.g., Dachler & Hosking (1995) for constructionist perspective focused on relational processes; Pearce & Conger (2003) for a more entitative perspective). One of the reasons why I find a constructionist view of relational leadership (RL) research difficult to understand is that different RL scholars emphasize certain aspects while minimizing others, such as narrative, discourse, practices, philosophical, and moral dimensions. “These differences lead to distinct orientations to the study and practice of relational leadership such that any categorization is a highly contested matter and hybrid or blended approaches are not uncommon” (Fulop & Mark, 2013, p. 255).

Again, trying to approach this relational leadership literature with a linear, systematic mindset makes it challenging, because the approach does not fit into a neat box. It is just as messy and unwieldy as the organizations and the people it describes.

Hosking (1988) has been at the forefront of re-construction the vision of leaders and the leadership process. She writes,

It is essential to focus on leadership processes: processes in which influential “acts of organizing” contribute to the structuring of interactions and relationships, activities and sentiments; processes in which definitions of social orders are negotiated, found

acceptable, implemented and renegotiated; processes in which interdependencies are organized in ways which, to a greater or lesser degree, promote the values and interests of the social order. In sum, leadership can be seen as a certain kind of organizing activity. (p. 147)

In the spectrum of approaches, Uhl-Bien (2006) places herself in the middle between an entity view of leadership and a radical constructionist conceptualizing. She writes of adopting “a view of leadership and organization as human social constructions that emanate from the rich connections and interdependencies of organizations and their members” (p. 655). The terrain of social constructionism and a constructionist view of relational leadership has shown me that although there are many unique ways of articulating what relational leadership means to an individual author, all of the studies and papers published promoting relational leadership share one common root: “that leadership is fundamentally more about participation and collectively creating a sense of direction than it is about control and exercising authority” (Uhl-Bien, 2006, p.654). This assumption problematizes the individuality of leadership, which in turn requires a reconceptualization of what leaderships are, and, for some, what indeed it should be.

### **Epistemology and Ontology of Relational Leadership**

In the previous section, I provided an historical perspective and also worked to situate relational leadership in the broader study of relational leadership. In this section, I describe the specific epistemological and ontological issues that underpin a constructionist relational leadership perspective. I consider this section to be fundamental to understanding my subsequent outline of the key characteristics and themes of a constructionist perspective of relational leadership. Building on the epistemology and ontology questions, I present the differences in paradigms between what has been called an “Entity” and a “Constructionist” perspective when exploring the relational leadership construct.

Bechara and Van De Ven (2007) have offered this insight: “The philosophy underlying our scientific practice is a choice, and should not simply be a default inherited without question from our teachers and mentors. Understanding the implications of this choice... is important for any reflective and responsive scientific inquiry” (p. 36). Throughout the course of this inquiry, I have grappled with the philosophical issues that underpin much of what happens in the academic pursuit of creating new knowledge, as well as in the domains of practice in the real world of corporate technology management. These philosophical issues are challenging to most students and, because of the complexity, I think many students and even scholars avoid this territory altogether and shift to the content of their inquiry, without addressing what lies beneath, or in the background of what we take for granted (Kezar, 2004b).

Dachler and Hosking (1995) are often credited with establishing a relational leadership perspective that was inherently built on a social constructionist perspective. One of their key issues was to make explicit the epistemological issues of any relational approach. They defined epistemology as

a means to address the following assumptions: the processes by which we come to ask particular questions in the first place (and not others); the processes by which we come to know, and the processes by which we justify claims to reality. What is experienced as real or true depends on (usually implicitly) held assumptions about processes of knowing. (p. 1)

They started with epistemology because they reasoned that, based on the knowledge claims, one can begin to see the ontology, or the real-ness of the thing being understood or interpreted. They write, “It is on the basis of epistemological processes that individual and social phenomena obtain ontology, that is, are interpreted as real or as having a particular meaning” (p. 2).

This explanation seems to follow what we experience on a daily basis. For example, if we don't believe there are merits or find the reports on climate change to be credible, then we do not behave as the changes in the climate exist for us, therefore no change in our behavior would be

required to slow it down (e.g., recycling, being thoughtful about or use of energy, etc.). The same can be said of technology leaders who are forced, due to the dynamic changes in the industry, to adopt new practices, such as DevOps. But if they do not believe that dialogue, sense-making and storytelling are fundamental to creating a context for effectively connecting the individuals together, then those very things disappear as possibilities for improvement.

### **Entity View of Relational Leadership**

The entity view of relational leadership focuses on the individual components or entities, which is positivism or postpositivism. Uhl-Bien (2006) who has developed the relational leadership theory (RLT), which is based on an entity perspective, defines it as “something that exists independently, as a particular and discrete unit” (p. 6). The word entity shapes the ontological and epistemic approach to relational leadership. From that perspective, distinct units are researched from a specific vantage point, such as the leader, or the followers, or a specific macro or micro view of how teammates interact with each other. Uhl-Bien and Ospina (2012) draw the following distinction by saying that in the entity view “relations are *derivative of the independent entities*” (p. 7). Which means:

entity perspectives approach relational leadership from the standpoint of relationships lying in individual perceptions, cognition (e.g., self-concept), attributes, and behaviors (e.g., social influence, social exchange). They view leadership as an influence relationship in which individuals align with one another to accomplish mutual (and organizational) goals. (Uhl-Bien, 2006, p. 661)

Figure 6.1 represents the entity perspective of relational leadership. The multiple circles indicate the individualistic view and the independence that I had discussed previously. This view also separates the researcher or the observers from the “action.” The observer is merely a collector of the “objective data.” This view has some strengths in that it can provide insights into specific behaviors that are enacted by the leaders and followers, and describe attributes which are helpful in understanding how to better relate to others (Goleman, 1998; Senge, 1990).



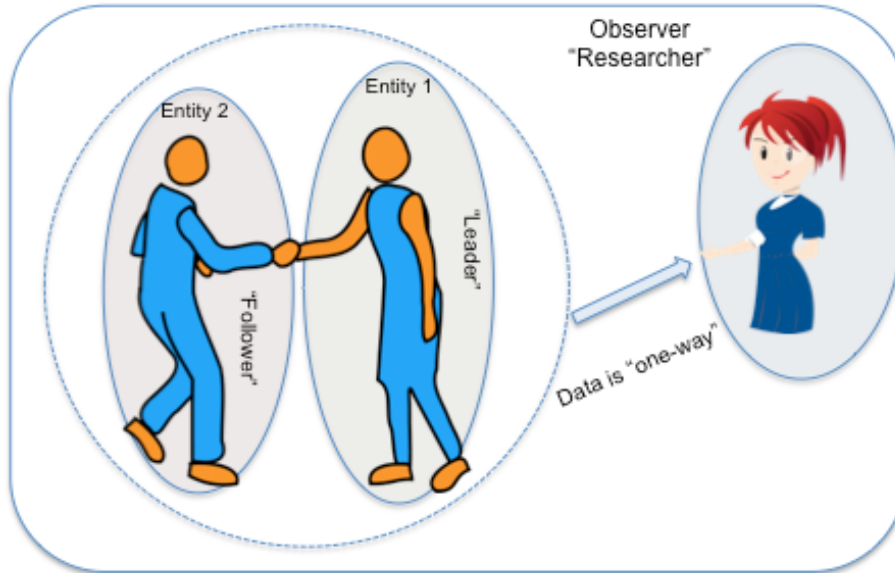
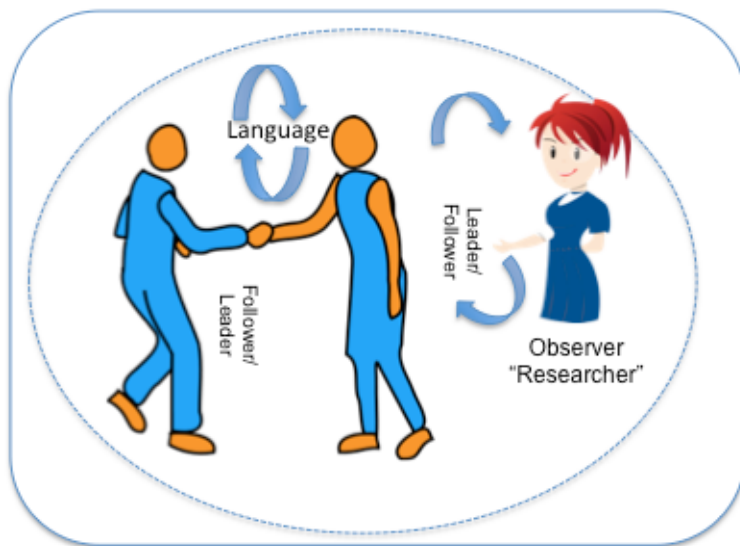


Figure 6.1. Relational Leadership from an entity perspective.

### Subjective (Constructionist) View of Relational Leadership

Given that constructionists are ontologically and epistemologically grounded in the notion that our social reality is co-constructed in relationship and in language and meaning-making that we share with each other, it's no surprise that relational leadership theories with this view see the phenomenon differently than entity theorists. The constructionist view of relational leadership is one of interdependence, embeddedness, and contextualized interactions. In that sense, the mode of analysis is different. Individuals are constituted or the derivative of the conversational and linguistic acts embedded in relationships, rather than the other way around. Shotter (1993) has written, “conversations is not just *one* of our many activities in *the* world. On the contrary, we constitute both ourselves and our worlds in our conversational activity” (p. 1). Shotter and Cunliffe (2003) suggest the implications of this view, “organizations are not seen as structures, but as ‘landscapes’ of socially-maintained features, providing a common sense (an ethical sensibility) of organizational life. This landscape emerges within relationally-responsive dialogue between organizational participants” (p. 3).

Figure 6.2 represents the constructionist, intersubjective view of relational leadership. In this picture, there are fewer circles or boundaries that separate the people from one another, because the location of the leadership occurs in-between them, in the context (Barge, 2004). The same holds true of the researcher who is observing, not from a detached perspective, but also from an embedded perspective. Cunliffe and Eriksen (2011) describe an intersubjective view of relational leadership as having “four main conceptual threads... leadership is a way of being-in-the-world; encompasses working out, dialogically, what is meaningful with others; means recognizing that working through differences is inherently a moral responsibility; and involves practical wisdom” (p. 1433).



*Figure 6.2.* Relational Leadership from a constructionist perspective.

### **Constructionist Relational Leadership Themes**

In the previous section, I provided an overview of some of the conventional leadership approaches that represent an essentialist “commonsense” of both practitioners and researchers (Kezar, 2004a). In this section we turn to focus on relational leadership themes. While there are many approaches and angles for constructing relational leadership through a constructionist lens,

there are a few important common characteristics that seem to unite most researchers. The three items I highlight below—focus on language and narratives, not being leader-centric, and leadership as a co-constructed reality—will demonstrate how the constructionist relational leadership view diverges from the mainstream ways of thinking about leadership.

A relational approach to leadership resonates well with a constructivist view because it sees the world and reality as constructed in and through social interactions with each other (Hosking, 2011a). One idea that Cunliffe and Eriksen (2011) point out is:

Relational leadership is not a theory or model of leadership, it draws on an intersubjective view of the world to offer a way of thinking about who leaders are in-relation to others (human beings, partners) and how they might work with others within the complexity of experience. Relational leadership means recognizing the entwined nature of our relationships with others. (p. 1434)

### **Organizational Discursive Analysis (ODA)**

One of the hallmarks that unites most discursive leadership scholars is that they all have been influenced by the linguistic turn. In this way, the discursive scholars view language as not a fixed representation of reality, but rather constitutive of reality. In this paradigm, language is more generative than descriptive (Fairhurst, 2007, 2009; Rorty, 1992). Discursive leadership scholars are interested in the specifics, in the specific context that makes a leader say and act in that unique way. Unlike the more mainstream leadership scholars, they are not interested in forming comprehensive and generalizable theories. They are content with delving deeply into the analysis of talk in organizational settings.

Fairhurst and Uhl-Bien (2012) describe organizational discourse analysis (ODA) as having three dimensions.

ODA is *interactional* because it can study leadership-as-it-happens, a relationship made possible only through the sequential flow of social interaction. It is *relational* in that it sees leadership not as a solitary activity, but as people co-creating a relationship as they interact. Finally, ODA is *contextual* in that it has the capacity to incorporate social context into leadership research in various ways. (p. 43)

Researching ODA in the context of relational leadership and reading some of this research made me more aware of the ways in which power, hierarchy and dominance are displayed just in the mundane staff meetings that I attend each week. On a leadership team of seven people, two are females and it's clear that the men dominate most of the conversations. Even when the women try to make a point, they have less "air time" and the discussion is quickly dropped, while the senior leader in the group continues to push his agenda in the meeting. Observing the room and myself interacting has provided a new perspective in seeing the difference between high quality interactions and exchanges and low-quality, power-driven interactions (Fairhurst, 2007). Tourish and Barge (2010) suggest that leadership from a social constructionist lens encompasses multiple ways of observing and assessing interactions and dialogue in organizations.

To study leadership must be to study voice, power, words, discourse—and not just those of the elite. Leaders have no divine right to rule over followers. Rather, the challenge is to delineate the limits of their power, to explore the sense-making processes whereby this power is enacted in the minds and lives of leaders and followers alike, to ascertain what it is that holds people enthralled by flawed visions and dysfunctional leaders, and to question continually and challenge the legitimacy of a leader-centric view of the social world we inhabit. (Tourish & Barge, 2010, pp. 324-325)

### **Language and Narratives**

Fairhurst and Grant (2010) suggest social constructionists believe "language does not mirror reality; rather it constitutes it. Seen in this light, communication becomes more than a simple transmission; it is a medium by which the negotiation and construction of meaning takes place" (p. 174). One of the main points that most relational leadership scholars tend to focus on or emphasize is the importance of language, interpretations, and discourse in observing leadership in organizations. In much of the literature I reviewed, language was described as constitutive of the co-created social reality among leadership actors (Barge, 2001; Barge &

Little, 2002; Grint, 2000). Human beings are meaning-making organisms. We are always embedded in language and use it to observe, assess, perceive and create meaning out of our social reality. Since the linguistic turn, constructionists have written about the many ways that language not only describes what goes on in organizations, but it is also the way we construct our social life. Shotter and Cunliffe (2003) use the term, “managers as practical authors” (p. 15) to highlight the importance of language. Kezar et al. (2006) describe a key difference between constructionist and traditional approaches to studying leadership: “To understand leadership, language and discourse become primary sites for examining perceptions and views. [Researches do this by shifting their] methodological emphasis to the words of leaders and followers as well as observe the interactions between individuals in leadership context” (p. 21).

As a practitioner, embedded in organizations, each day I witness that what appears for me as leadership is always centered in language and conversations (text and con-text) (Dachler & Hosking, 1995). Another way of saying this is leadership is conversations and interactions in a specific social context. Without conversations, nothing gets done, since conversations are required for communication and coordination between two or more people (Carroll, Levy, & Richmond, 2008). So using language effectively and cultivating the ability to create meaningful, relevant, and valuable narratives is an important practice that is linked to the core principles of constructionist leadership (Cunliffe & Eriksen, 2011).

As I discovered in my research, language can be used to create open spaces for dialogue to occur, or it can be used to dominate and silence voices of others while amplifying the voice of the leader in the group. Gergen (1995) and other constructionists emphasize the importance of a “reflexive dialogue” as an approach for disclosing taken-for-granted assumptions, which can be

hidden far below the surface. For constructionists, reflexive dialogue is crucial to both studying leadership as well as for the leadership actors in organizations.

### **Avoiding Leader-Centric Approaches**

Another common theme of most relational leadership approaches is they avoid the mainstream leader-centric ways of theorizing and discourse. Fairhurst and Grant (2010) write that constructionist scholars “eschew a leader-centric approach in which the leader’s personality, style, and/or behavior are the primary (read, only) determining influences on follower’s thoughts and actions” (p. 175). Unlike what I described with transformational leadership or with servant leadership, constructionists look elsewhere for the leadership process. In my research, I have observed a continuum where some researchers are more radical than others (see Meindl, 1995). Because leaders are not the primary focus, the follower’s perspective is emphasized and explored more deeply as a key component of how leadership is co-constructed. (More on this in the following section.) There is a greater interest in how followers are: (a) an integral part of the leadership process (Cunliffe, 2011); and, (b) how followers make sense of their organizational context and those who are in formal leadership roles (Meindl, 1995). In short, the followers’ perspective is elevated as an important location or site for observing the leadership process. It is not an afterthought or secondary to the individual leader (e.g., opposed to entity or essentialist thinking). This is a key differentiation between the traditional leadership orthodoxy and the more constructionist, critical perspectives on leadership. As I will describe in a later section, some leadership scholars would rather do away entirely with the very idea of a “leader,” as they see it as social construction with a long history that is oppressive and dominating (Gergen, 2009).

## Leadership as a Co-Constructed Reality

Similar to the first characteristic of rejecting a leader centric view, constructionist researchers maintain:

leadership as a co-constructed reality, in particular, the processes and outcomes of interaction between and among social actors. Communicative practices—talk, discourse, and other symbolic media—occasioned by the context are integral to the processes by which the social construction of leadership is brought about. (Fairhurst & Grant, 2010, p. 175)

Table 6.2 is a listing of words and phrases that describe the different orientations.

This is yet another major departure from conventional leadership theories where the focus and premium is placed on the leaders' traits and personal qualities. Grint (2000) suggests that leadership is *attributional*, as in the eye-of-the-beholder, as opposed to an objective phenomenon that can be empirically studied in a lab. Grint (2000) argues that in most organizations, “what counts as a ‘situation’ and what counts as the ‘appropriate’ way of leading in that situation are interpretive and contestable issues, not issues that can be decided by objective criteria” (p. 3).

I found Gergen's (2009) explanation of relating and relational leadership to be helpful. Since most readers who have a background in entity thinking would relate to the traditional way of understanding it. Gergen (2009) writes,

virtually all faculties traditionally attributed to the internal world of the agent—reason, emotion, motivation, memory, experience, and the like—are essentially performances within relationship...in all that we say and do, we manifest our relational existence. From this standpoint, we may abandon the view that those around us cause our actions. Others are not the causes nor we their effects. Rather, in whatever we think, remember, create, and feel, we participate in relationship. (p. 397)

Gergen makes a bold claim about the centrality of relationships in all of our human dimensions.

Relational leadership from a constructionist perspective raises the question of how leaders really lead. In other words, can leaders lead if the followers are unwilling to follow, or do the leaders

lead where the followers want to be lead? How powerful is that interaction and relationship between leaders and followers?

Table 6.2

*Relational Leadership Terms From a Constructionist and Entity Perspectives*

Constructionist Constructs	Entity Constructs
Context-bound (local)	Individuality
Movement and Fluidity	Independence
Social Embeddedness	Rationality
Collective Dimensions; Social Practices/Experiences	Agency
Relational Practices	Behaviors
Communication; Conversation	Attributes
Organizing Conversations, Actions and Interactions	Experience
Situated	Motivation
Language & Discourse	Focused on Things
Task, Place and Time	Cause and Effect
Shared Responsibility	
Reality as co-created	Subject-Object
Sense-making and storytelling	
Ethics and Morally responsive	Value-Free

### Summary

In this section I described some of the common themes amongst constructionist leadership scholars. Language, narratives and discourse were highlighted as the site of leadership



inquiry. This is a significant departure from the traditional leadership orthodoxy where behaviors, traits, and personality of the leader are evaluated and dissected in great detail. In addition, I described the way constructionist scholars eschew a leader-centric view, and focus more on leadership as an intersubjective, interpretive experience. Finally, I explore the common theme that leadership is viewed as a co-constructed social reality. It is not performed in a vacuum. Having established some of the common characteristics of social constructionist leadership approaches, in the next section I will provide a summary of my research on several leadership theories and how they have contributed to towards my understanding as a scholar - practitioner.

In this section I offered a reflection on relational leadership and DevOps. As I was studying social constructionism and relational leadership in my doctoral program, I was grappling with technology management breakdowns (Heidegger, 1966) in my corporate role. There was an “aha” moment when I began to see the connection between reframing what it means to be a leader and leadership in general with the grassroots movement of DevOps. At that point, I recognized that there were “dying cows” that needed a new solution. As I will describe in the next chapter, I have used my first-hand lived experience along with the scholarly research to craft some specifically relational leadership practices that are aimed at specifically helping technology leaders cope and adapt to the changing world of technology management. It is my hope that by presenting the practices that have been most helpful in my own journey as a practitioner-scholar, that others might be able to learn the fundamental practices and apply them in their own unique way to their own work context. The next chapter will be dedicated to exploring these practices.

## Chapter VII: Relational Leadership Practices

Failure of existing rules is the prelude to a search for new ones... The significance of crises is the indication they provide that an occasion for retooling has arrived.

(Kuhn, 1970, pp. 68, 76)

I begin this chapter by summarizing the ground I have covered so far, as well as introduce the concept of a personal theory of practice, or what Raelin (2003, 2007) calls Leadership-as-Practice (LAP), which is consistent with a constructionist relational leadership approach that I have explored the previous chapter. This scholarly personal narrative has been fueled by the many difficulties and breakdowns associated with managing complex IT systems in functional silos. I, along with many in the IT industry, have experienced a form of corporate suffering, which often included operating in high pressure situations, sleep deprivation, and mentally taxing situations. Sometimes my manager showed appreciation and offered encouraging words during the stressful long nights. However, the situations shifted from just a bad day in the office to suffering when a manager would become angry about an outage and berate the team. As Kuhn wrote, it was during these times of failures when anger, hostility, and criticism created a desire in me to search for new ways of managing. My study has been an opportunity to contribute to both the scholarship and to practitioners by articulating leadership practices for DevOps that are underpinned by relational leadership principles. My inquiry has enabled me to use my training as an IT professional, my education, and experience as a technology leader to present a new vision of relational leadership for DevOps.

As a social constructionist thinker, I conceptualize DevOps as a conversation that continues to morph and evolve amongst its practitioners. This conversation is dynamic and is dialogically-responsive to what the practitioners are facing. Much like open source software, DevOps is not owned or controlled by a single entity. The entire community of people is

contributing to evolving DevOps to meet the unfolding business and technology challenges. My primary objective and focus of this study has been to explore how a DevOps management philosophy and practices derived from a social constructionist perspective might help practitioners save the dying cows in their work context. Kim (2014) writes:

The obstacles facing DevOps adoption may be marginalized as merely “technology problems”—however, business leaders who do so put themselves in grave risk. Transforming the IT value stream by adopting DevOps methods will likely result in a productivity surge as large, or larger, than the manufacturing revolution 30 years ago, making this one of the most important and urgent business problems of our age. (para. 15)

Similarly to Kim’s quote, I see DevOps as extending beyond just technology problems, thus requiring a relational leadership approach as a way of being. One of the main components of my dissertation is to share my stories with hope that my vision of leadership practices for DevOps will help create new and stronger communities out of the ideas and concepts I have created in this document.

Throughout my scholarly personal narrative, I have made the case that something terrible has been unfolding in most IT departments. This is mostly due to the top-down, classic bureaucracy of the forgotten industrial age. In that era, knowledge was limited and controlled by a few “great men” in the organization, where a hierarchical structure, well-defined roles, policies and procedures were a necessity. Technology has changed the nature of the organization, and now most people working in a modern organization are “knowledge workers,” which often means they know their work the best, and have the necessary skills and tools to achieve the desired outcome. This shift has only accelerated in IT, with the rise of the Internet, and the post-PC era, delivering software through the Internet at scales that were never seen before. In my narrative, I have used the term “dying cows in IT.” The practices that I will share here reflects the following understanding of the role of managers:

Managers are no longer the self-appointed hubs of information, and their insistence on controlling the transfer of knowledge can only impede the workflow. What is required from management is the support services and tools necessary to help those on the front line of service do their jobs more effectively. Accordingly, managers and supervisors take on such new roles as consultants, facilitators, coaches, team-builders, and coordinators. (Raelin, 2007, p. 9)

My inquiry should not be understood as being “anti-management.” I am a manager and I still recognize the need for organization and structure. Rather than a polemic against all forms of management and leadership, or “boss-bashing,” My interest is to introduce practices that change the conversation about how managers in technology should be. One of the underlying assumptions of a practice-based approach is that “No one knows the practice better than the practitioner who must in relation to others negotiate and arrange the objects of his or her own practice” (Raelin, 2007, p. 10).

In this chapter, it is not my objective to develop a comprehensive set of practices and strict prescriptions, or a formula that will work in every situation and under all circumstances. That would be the antithesis of a constructionist relational leadership perspective and what I have set out to do in my SPN study. What I hope to produce and articulate here are some practice patterns that have worked well for me, in my work context across several different companies. My most recent role as senior vice president of operations allowed me to further clarify and refine my thinking about these practices. Over the past year, I have engaged with my managers, my peers and team members in different conversations and I have continued to observe how these practices create new space for innovation, collaboration and overall better business results. In this section, I also offer the process for developing one’s personal theory of practice (Jarvis, 1999). I refer to them as practice patterns because they have a recurrent nature. They have become patterns that I have been able to recognize. They are patterns that seem to produce similar outcomes, recurrently. I do not make the claim they are comprehensive or the only set of

practices that work. I think any relational leader who wants to engage with these sorts of practices, needs to approach them from a perspective of humility, and an intention to experiment and learn.

This chapter is divided into three primary sections. In the first section, I offer the background of what I mean by practices and discuss the theoretical foundations of the concept of practices. I follow Raelin's (2007) presentation, as well as Flyvbjerg's (2001) interpretation of what Aristotle conceived as *episteme*, *technè* and *phrónēsis*. I focus on practices as *phrónēsis*. My thinking has also been influenced by Jarvis (1999) who explored the notion of the practitioner-researcher. In his work, he "conceptualizes theory, arguing that all practitioners generate their own personal theories" (Jarvis, 1999, p. xii). In section two, I outline and provide an overview of the practices that I have learned and began applying as part of my own work effort to move the technology organization towards DevOps principles. These practices include maintaining a connection, integrity, dialogical process, learning, and reflexivity. In the final section of the chapter, I offer reflections on the importance of finding a good workplace, an environment that is supportive of applying these practices and also offer a perspective about the changing tides in corporate America. I use a recent situation at Apple as an example of the small changes that are taking place, where companies are thinking beyond next quarter's financial goals.

### **Locating Practices: *Technè*, *Épistémè*, and *Phrónēsis***

My research led me to a more philosophical understanding of the different forms of knowledge and how they might apply in various domains. Aristotle classified forms of knowledge into three distinctions: *technè*, *epistémè*, and, more importantly, *phrónēsis*. In this section, I describe the different forms of knowledge and their meaning. In my discussion I hope

to link phronesis to the relational leadership practices, which I will describe in the next section of this chapter.

### **Épistémè (“Scientific Knowledge”)**

Épistémè means “to know” in Greek. This is the kind of knowledge that is gained from reading articles, books, as well as lectures on the works of leadership theorists. This knowledge is explicit, in the sense that one can be “tested” on it. For example, over the past few years of leadership studies, I can now articulate the different schools of thought in leadership theorizing, and explain the differences. I can begin with trait theory, great man theory, transformational and transactional leadership, leader-member exchange, and the romance of leadership. This form of knowledge is good, required, and is fundamental to being an educated person. In technology management, there is a tremendous amount of episteme that is grounded in electrical engineering and computer science discourses. Flyvbjerg (2001) writes, “episteme concerns universals and the production of knowledge which is invariable in time and space, and which is achieved with the aid of analytical rationality” (pp. 55-56). Episteme is also relatively inexpensive to collect, learn and transmit. One of the reasons why the Internet is so revolutionary is that it has democratized episteme on a global scale. A poor boy in the heart of “garbage city” in Cairo can access a lecture delivered by an award-winning Yale professor for free. To paraphrase Friedman (2005), the world is flat because technology has democratized episteme.

### **Technè (Skill and Craft Knowledge)**

The Greek word for technè translates to craftsmanship, craft, or art. This form of knowledge is less about what is in one’s head and more about what can be done that is embodied. This means that my body has to perform something for it to be technè. For example, I have developed my technè in the field of IT infrastructure. With this form of knowledge, I can

build a computer, install the necessary software, and publish applications so that the server can run a website and a blog site. While I am less “hands-on” now, I still have the embodied *technè* that I can recall when it is needed. One of the main features of *technè* is that it requires practicing the craft (Gladwell, 2011). It’s not something that one catches, like the flu. Flyvbjerg (2001) writes, “The objective of *technè* is application of technical knowledge and skills according to a pragmatic instrumental rationality, what Foucault calls ‘a practical rationality governed by a conscious goal’” (p. 56). In the Ph.D. program, I had to practice to gain *technè* knowledge to be able to succeed in the program. For example, if I don’t know how to conduct a literature review, critique an article, or format a paper using the American Psychological Association (APA) guidelines, the journey ahead is going to be far more difficult.

### **Phrónēsis (Practical Wisdom)**

Phrónēsis means practical wisdom in Greek. Not sure if Aristotle would approve of my definition, but I see phrónēsis as cultivating “street smarts.” Phrónēsis includes the effective use of episteme and *technè* in real life situations. Again, Flyvbjerg (2001) makes the following distinction, “Whereas *episteme* concerns theoretical *know why* and *technè* denotes *technical know how*, *phrónēsis* emphasizes practical knowledge and practical ethics. *Phronesis* is often translated as ‘prudence’ or ‘practical common sense’” (p. 56). Phrónēsis requires being a critical thinker, a reflective and reflexive person. One must be able to look at whole systems and challenge what is easily taken for granted. Phronesis is the sort of practical wisdom that scrutinizes statements like “This is the way it’s always been around here” or “it is what it is.” Drucker has been quoted as saying the difference between a manager and leader is that the “manager does things right, while leaders do the right things” (Cohen, 2009, p. 57). As I reflect back on my scholarly journey, I see that developing phrónēsis is the goal of getting an education

and becoming a scholarly-practitioner. Regarding the connection between *phrónēsis* and the idea of the scholar-practitioner, McClintock (2004) writes,

Most of all, the ideal of the scholar-practitioner embodies and displays wisdom: The concept of wisdom captures the essence of the ideal of the scholar practitioner, in that it represents an integration of cognitive, affective, and behavioral dimensions. The work of wisdom for a scholar practitioner requires alternating between the abstract and the observable, questioning what is taken for granted and overlooked, complicating with unexpected findings, and simplifying with new interpretations. These intellectual and social skills require multiple forms of intelligence and are manifested through principled and ethical action. Nurturing the capacity for wisdom is the goal of education and lies at the heart of the scholar practitioner ideal. (p. 396)

This chapter is about my understanding of practices as *phronesis*, the practical wisdom in a DevOps environment. I shared the three forms of knowledge because I believe they all serve a purpose and needed. However, what is often missing is the focus on cultivating the necessary practices that allow people to embody *phrónēsis*.

### **Theories-In-Use and Espoused Theories**

The stories of breakdowns and challenges in IT management that I have shared in my study shed light on the distinction drawn by Argyris and Schon (1978) between what they call *theories-in-use* and *espoused theories*. They suggest,

When someone is asked how he would behave under certain circumstances, the answer he gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that actually governs his actions is his theory-in-use, which may or may not be compatible with his espoused theory; furthermore, the individual may or may not be aware of the incompatibility of the two theories. (pp. 6-7)

Many of the same leaders that offer their particular espoused theories of action during employee gatherings, or in front of Human Resources, behave differently when confronted with the high stress of outages and issues, and when no one but their subordinates are looking. I am wondering if the differences between what is espoused and what actually happens is somehow connected to *phrónēsis*. In other words, without being able to cultivate certain practices, when a



situation arises that requires an immediate response, the person is unable to react. Argyris labeled this “action science” (Argyris, Putnam, & Smith, 1985).

Jarvis (1992) reminds us that practice and practical knowledge are “individual, personal, subjective, and dynamic” (p. 133). Although my personal theory of practice is subjective and dynamic, it is not entirely unique so that other technology professionals would find it unworkable. This is because, as I have shared my personal narrative throughout the previous chapters, most of the technology professionals are stuck in similar “traditions” of coping with the problems of their industry. That tradition has generated similar sets of process, procedures, and the current discourses of how to manage infrastructure. I have adapted the Figure 7.1 from Jarvis (1999) because it powerfully demonstrates the process that I have followed along the journey of studying, reflecting and developing a set of practices that have helped me deal with the breakdowns, the “dying cows,” of IT management.

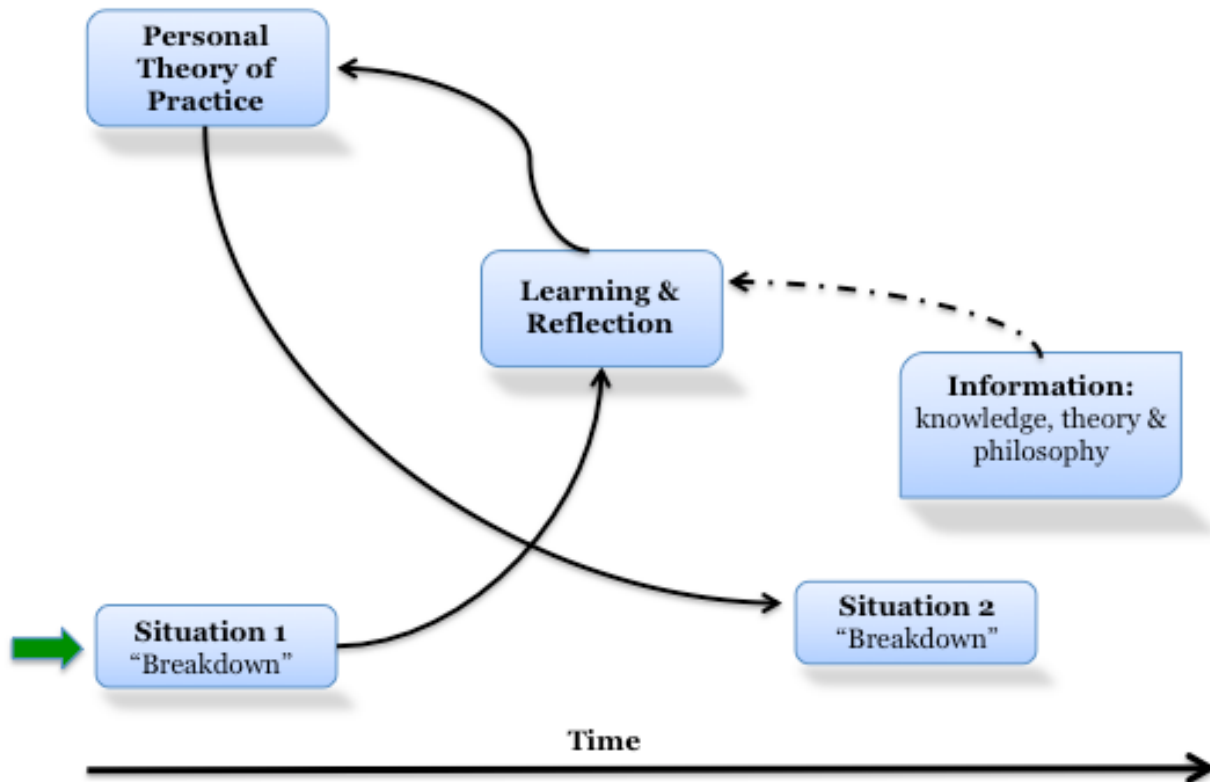


Figure 7.1. The process for developing the personal theory of practices. Adapted from *The Practitioner-Researcher: Developing Theory from Practice* (p. 134), by P. Jarvis, 1998, Boston, MA: John Wiley & Sons. Copyright 1998 by John Wiley & Sons. Adapted with permission.

Step 1: There is usually some experience of a breakdown that occurs in a specific situation. Example, “My team is unable to get the cooperation it needs to solve ongoing problems in production. Without engineering’s help, the team will suffer long nights and many disruptions.”

Step 2: Breakdowns cause people to reflect, because it makes that which was transparent (in the background of experience) rise to the surface. Learning and reflection on current practices and what has been taken for granted prior to the breakdown. Example: Why do I only engage my peer when there is a crisis and emotions are running high? Why do I begin by complaining about the lack of cooperation and essentially blame the engineering team? How are others solving this type of problem?

Step 3: By learning and reflecting on the breakdown and assessing current assumptions and practices, new knowledge, practices and approaches to addressing the breakdown are introduced and integrated, forming new ways of being. Example: By developing a cross-functional team that owns the entire problem, both operations and engineers become accountable to solve the customer problem and focus on delivering a higher quality service

Step 4: New knowledge and practices becomes part of the personal theory of practice that is unique and dynamic. Those new practices are tested in Situation 2, the next breakdown. Example: As new teams are formed, or as the leader in this examples moves to a new work context, they would be able to recognize this patter and either apply it or modify it to adapt to the new situation or breakdown. As I have shared in previous chapters, when the external environment is stable, this process is not as important, because whatever set of practices that were learned as a novice IT professional can be maintained over long periods of time. However, in a constant state of change, and when new disruptive technologies are being introduced each day, this process of developing a personal theory of practices becomes vital for effectively leading into the unknown.

### **Relational Leadership and Personal Theory of Practice**

Before describing each of the practices (See Figure 7.2 for an overview), I would like to offer the following observations:

1. These practices are connected to a real-world context; they are not detached from what happens in everyday interactions at work. I have worked hard to not idealize the practices or the interactions, so they may sound mundane and ordinary situations.
2. I have been developing my personal theory of practice and trying out how these practices fit in my context. As Figure 7.1 shows, as the situations and conversations

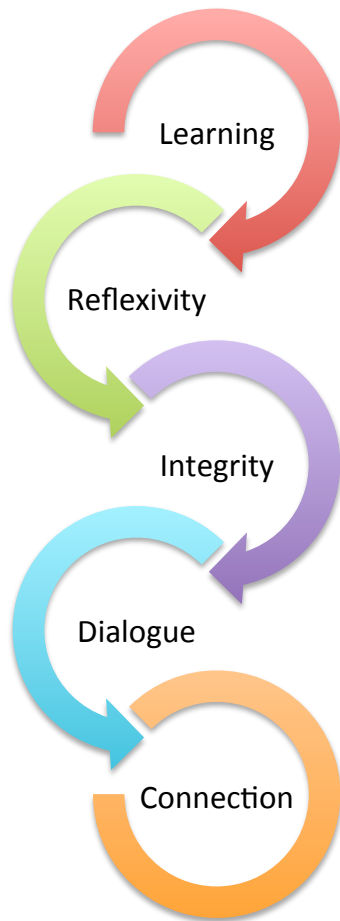
change, there is often a direct link with the practice and it is dialectical process. As Cunliffe (2009a) has suggested, we “shape and are shaped by our experience as we talk and interact with others” (p. 140).

3. Like any conversation, this is an evolving domain, hence I offer these practices as the beginning, and certainly not the last word. This makes this work challenging because there is always an expectation and an end. A clean finish, wrapped up in a bow. However, as I mentioned elsewhere, leadership is a messy business. There are times when I feel like I am doing a great job helping shape a progressive and enlightened organization, and other times I experience breakdowns that cause me to doubt my approach, philosophy, and these practices. Part of the integrity of this work is to expose the vulnerabilities as well as the successes. This is also what I believe how leadership actors should be around their teams, which makes them more human and authentic.

### **Practice # 1 Learning to Learn**

I begin with learning because I believe this to be the most fundamental and required practice in today’s rapidly changing economy. Without fostering and cultivating the practice of being a dedicated learner, not much of the other practices will make a difference. This is because new ideas, concepts, tools, services, and products are being invented and introduced daily. New conversations are constantly evolving in the marketplace. How does one cope with that level of change without first being an expert at learning new distinctions and practices (Argyris, 1991). From a DevOps perspective, the teams that are most productive are the ones that are able to continually learn and expand their capacities to take effective actions. Many relational leadership

scholars, as well as others, have suggested that learning plays a crucial role in the work of leadership (Cunliffe, 2009b; Grint, 2007).



*Figure 7.2.* Five practices that form the foundation of my personal theory of practice.

President John F. Kennedy (1962) wrote, “Leadership and learning are indispensable to each other” (para. 2). I started with learning as a practice because it is the starting place for being a relational leader. I have continued to be amazed at the need to learn many different forms of knowledge to support a DevOps shift; from learning about new tools and technologies to learning new distinctions from the other departments in the organization, as in operations learning about the software development process and software developers learning about how to

manage and administer systems in a production environment. Raelin (2004) has offered several characteristics of what constitutes a learning practice:

They commit to their own and other's continuous learning-in-action, freely exchanging knowledge; They develop a personal self-consciousness that values reflexive self-awareness, develops insight, and engenders a commitment to examine their own defensive reactions that may inhibit learning; they develop the capacity to make contextually relevant judgments; They develop a peripheral awareness of others; They extend time to their colleagues, to listen to them and to suspend their own beliefs during precious moments of empathy; They develop a systemic perspective that understands organizations as an integrated set of relationships, not as bastions of isolated expertise. (p. 134)

### **Learning to Learn: Cultivating a Growth Mindset**

Learning does not have to occur in the traditional manner as seen in the surrounding culture, but may pull from other cultures, traditions, and external discourses. Relational leading and learning are connected. Being a relational DevOps leader is a commitment to being a beginner and embracing a mood of humility. This is why it's important that leaders cultivate a *growth mindset*, rather than a *fixed mindset* that is shutdown to learning and reflection. Dweck's (2006) theory on learning explains the difference:

Believing that your qualities are carved in stone—the fixed mindset—creates an urgency to prove yourself over and over. If you have only a certain amount of intelligence, a certain personality, and a certain moral character—well, then you'd better prove that you have a healthy dose of them... Growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts... everyone can change and grow through application and experience. (pp. 6-7)

The language that leaders use, the meaning and interpretations made, moods and changing emotions, as well as body posture, are all connected to a fundamental state or mindset that can either restrict and limit our potential for leadership or invite us to growth and expand our abilities, and skills to positively influence others.

Vaill (1996) wrote about *permanent whitewater*, to describe a state where leaders, as well as technology professionals, are constantly bombarded by new and challenging events in their

environments. The answer to surviving and thriving in a world that is constantly changing and evolving is learning. Vaill's definition of learning is relevant to how I conceptualize the DevOps relational leader ability to continually stay in a learning-reflective mood: "Learning [is a] change a person makes in himself or herself that increases the know-why and/or the know-what and/or the know-how the person possesses with respect to a given subject" (Vaill, 1996, p. 21). Given the challenges associated with leading high technology organizations, the growth mindset is critical for effectively surviving in permanent whitewater.

Another aspect of leading in the midst of permanent whitewater is to engage in reflective practice as a practice of learning. Schon (1983) argued that the positivist, Western and scientific approach to learning and thinking has serious gaps. Schon (1983) developed the notion of "reflection-in-action" and "reflection-on-action" as an innovative framework to help leaders and practitioners engage in a rigorous form of professional practice.

The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation. (Schon, 1983, p. 68)

The parable of the boiled frog is a great analogy of the threat that exists when leaders stop learning and drift into a fixed mindset. Gradually leaders find themselves cooked, or more specifically, irrelevant to the leadership role they once held. The parable of the boiled frog, as told by Senge (1990), shares that if a frog is dropped into a large pot of boiling water, it will immediately jump out or at least react to the boiling water by trying to escape. However, if the same frog is placed in a pot of cold water and the temperature is raised gradually, the frog will remain in the pot until it becomes too hot and will eventually die. The reason for this is that the frog's biology does not allow it to sense gradual changes in its environment. The cool water that

slowly heats up, feels good to the frog until it is too late. For a DevOps culture, leaders and teams must be smarter than a frog. Learning to learn is about continually reflecting, adapting, altering, even if the current environment is still comfortable. This simply means that the best time to learn may be when everything seems stable and fine.

### **The Enemies of Learning**

Learning about and keeping the “enemies of learning” in the background of my intention to practice being a learner has been profound. I have shared these principles as a way to sensitize leaders and IT professionals to be aware of the enemies of learning that shutdown growth. I give great thanks to Olalla (2004), a noted coach, writer, and teacher, who taught me how to see and work with the enemies of learning that hinder reflection and stunt growth. The following list is a paraphrase from a seminar taught by Olalla.

**Our inability to admit that we don’t know.** From a very young age, humans learn that knowing the answers is what gains positive reinforcement from teachers, parents, and adults. This learning disability only gets stronger in adulthood, where it’s not safe to admit that we don’t know. In certain organizations, the culture pushes people to feel that answers must be known. However, admitting a lack of knowledge creates the opening for learning, inquiry and a mood of wonder. When I first began to learn about DevOps, I had to first declare I am a beginner in this domain and needed to learn about new approaches to running technology that were different from the way I was taught to do that work for 20 years.

**The desire for clarity all of the time.** This desire for clarity does not allow for an opportunity to be in wonder about what is unknown or enter into a mood of inquiry that would create a space for learning and reflecting about what is unknown. Relational leaders must create the space that makes it okay to not have all of the answer or know exactly what is required in



every step of the way. In chapter two, I described the Lean Startup approach to product development, which is an iterative approach that begins with the assumption that not having clarity about the final deliverable is fine, and through iteration and experimentation with ideas and conversations with the clients, clarity is gained.

**Lack of priority for learning – “I don’t have the time.”** Getting caught up in the daily activities and the need to “just get things done,” can cause many leaders and technology professionals to forego the budgeting of the time, money, and energy to learn. Rather than continually doing the same thing and expecting a different result, prioritizing learning and seeing that learning is not a luxury or a benefit for only the select few. Whenever I experience the “I don’t have the time” explanation for not learning, I ask if by learning new practices, how could that possible provide more capacity and increase the team’s effectiveness. For example, learning to automate software deployments requires learning new skills, tools and practices. It is understandable that for most people, operating in “survival mode,” they don’t see they have time to take on an additional task, but if that automation was introduced to the environment, the entire team would potentially benefit and get more free time to learn and introduce other DevOps practices.

**Inability to unlearn.** The phrase “The purpose of today’s training is to defeat yesterday’s understanding” is relevant in this context. In order to learn and grow, one must learn to unlearn certain things. In technology this happens all of the time. Learning to use software development methods requires one to unlearn the old practices of manually configuring systems. One of the hardest things to learn when making the shift to DevOps is to change the orientation of the team from a reactive firefighting team to a proactive team that anticipates, monitors, and alerts on issues before they turn in system outages.

**Confusing learning with acquiring information.** Most people would recognize that learning to ride a bike is different than learning about riding bikes. Relational Leaders need to learn to do and be more, rather than learning about things. Being clear about the difference is crucial.

## **Practice #2 Reflexivity**

Reflexivity is an intellectual approach that has its roots in postmodernism and critical studies, which recognized the significance of the researcher's role in what is being observed and studied. The term has been expanded to refer to a mode of reflection "in which practitioners explicitly question the underlying norms of a particular practice and engage in argumentation processes in order to agree on revised norms of good practice" (Geiger, 2009, p. 140). Although Geiger refers to practice, reflexivity encompasses all of our ways of being and relating to one another. Reflexivity is about seeing the interactions, or the interplay between language, communication, the local context, meaning, and the associated actions (Barge, 2004).

I consider reflexivity to be another fundamental practice that has shaped my sense of who I am in my pursuit of being a relational leader. Gergen (2008) describes reflexivity as the practice of placing "one's premises into question, to suspend the 'obvious,' to listen to alternative framings of reality, and to grapple with the comparative outcomes of multiple standpoints" (p. 12). For the constructionist this means an unrelenting concern with the blinding potential of the "taken-for-granted." A recent example of applying the practice of reflexivity unfolded as the operations and engineering teams were both working on a tool that would help us automate our infrastructure and software code deployments. This is often one of the first steps that a company takes towards adopting DevOps practices. I was excited by this project and I felt like enough team members were behind it. The challenge was that my team wanted to use a tool

that was different from the tool that the engineering team had selected. Both tools had stakeholders, and it was becoming clear that the work of automation was being stalled due to the conflict of which tool to use in our environment.

One of the suggestions was to use and maintain both tools. The engineers would keep their tool running in all of the non-production environments, and the operations team can use their automation to promote code to production and to build systems automatically. I did not like this choice, because it felt like a compromise that would create new silos of technology. Not a good choice considering the commitment and intention that we had to develop common tools. At the same time, I also did not want to dictate what the tool was going to be, which would have guaranteed that one team was going to be unhappy with the decision and lose enthusiasm for the project of automation. This was a difficult decision and I became unsure about what action to take. At the same time, certain team members began escalating the issue with me, essentially forcing me to make a decision about the tools so they could move forward with the project. At this point, I began to apply what I had learned about being a reflexive leader to see if by entering a different type of conversation with myself and others new possibilities for action would show-up that perhaps were hidden up to this point.

### **Reflexivity and Office Space**

Cunliffe has written much about the construct and practice of reflexivity (Cunliffe, 2002; Shotter & Cunliffe, 2003). The practice of reflexivity is relevant for beginning to engage and to be a participant in being a relational leader. The film *Office Space* (Judge, 1999) is a good illustration of the importance of reflexivity. *Office Space* became an instant hit among technology workers and the wider public for its portrayal of the misery associated with working in an uninspiring corporate work environment. The film was about three software engineers

working in a dysfunctional technology company with incompetent disinterested managers. Their boss was the opposite of a relational DevOps leader, whose very presence caused breakdowns and disengagement. The boss behaved in ways that showed no regard for his employees, such as asking employees on Friday to come back to the office on Saturday. Eventually, the employees find a way to get back at the boss in a comedic plot. What is interesting is how unconnected the boss (leader) was to his staff emotionally, socially, and in conversations. As I was reading the literature on reflexivity and some of the descriptions in the literature (Barge, 2004; Cunliffe, 2002), I recalled certain scenes from that film where the interactions were not only uncomfortable, but also monological and disconnected. Although the movie was meant to be a dramatic comedy, the issues it raised are all too familiar in technology and corporate contexts.

To practice reflexivity is to linguistically create a space where the other person is comfortable and can see the potential for a human connection that allows one to be more open, honest, and less reserved (Barge, 2004). The person practicing reflexivity maintains a stance that they do not have all of the answers and they must be willing to challenge their own assumptions, beliefs, preconceptions, and actions (Cunliffe, 2009b). However, reflexivity does not mean leaders become “wonderful” and create such a comfortable environment where no one is willing to speak truthfully of the situations. Discomfort can be one of the signs people are being reflexive, because they might have to face and ultimately denounce one of their sacred cows. Self-reflexivity, according to Cunliffe (2009b), gets at the heart of relational leadership by “questioning our ways of being and acting in the world... question our ways of making sense of our lived experience, and examine the issues involved in acting responsibly and ethically” (p. 93).

### **Practice #3 Maintaining a Connection**

I have shared in previous sections about watching senior managers behave as if they can lead from afar and still be effective. As I continue to study and reflect on what it means to be a relational leader, I began to practice deeper engagement at the different levels of the organization. I refer to this practice as *maintaining connection*. I first learned about this type of relational practice from Aikido, the Japanese martial art. Two things can happen without maintaining a proper connection with the person one is engaging with in Aikido. My “moves” may not be effective because I have a weak connection with my partner. The other thing that can happen is that we hurt each other. I think the same ideas are true in my context of technology management setting. Cunliffe (2009a) writes, “managing is about somehow connecting with people, recognizing and respecting differences and creating meaning” (p. 140). In this section, I offer some of the ways that I have been practicing maintaining connection.

One of the ways that I have worked to maintain a connection with my own department is to simply create an informal space for dialogue. Each Friday morning, I or one of my direct reports, buys bagels, donuts, and fruit. We meet in a large conference room and just “catch-up” and talk as a team. Everyone in my organization is invited, yet I don’t make it mandatory. I do not believe you can force a connection with others and coercing people to enter into the conversation is not consistent with my values or the spirit of being a relational leader. I have maintained this type of open and collaborative meeting for over a year and the level of participation has continued to endure. One of my concerns when I first created this space was that it would end after a few weeks, but that has not been the case. I don’t think people attend as a result of the free food. I think it’s because we all have a need to make and maintain connections with other people in the organization. This weekly gathering has helped me to share

and continue to help make sense of what our company is trying to accomplish and how our technology operations team is included. I believe maintaining a connection is important for forming what Godin (2011) calls a tribe, “A group of people connected to one another, connected to a leader, and connected to an idea... people want connection and growth and something new” (pp. 1-2). Maintaining a connection also sends an important message that I, as the head of the department, care about each individual. It is uncontested that people want to have their work mean something. Maintaining a connection allows for deeper meaning and for deeper relationships. While not every meeting is fantastic, I have been encouraged by the conversational space that is created, and the safe environment, where team members feel they can express themselves freely.

I have also applied the same practice with my peers who are each heads of distinct technology and products functions. We created a weekly operating mechanism that we called “C4.” The purpose of the meeting was to work to breakdown the organizational silos and to agree on how we need to lead our respective organizations to common purpose. In these meetings, there are two dynamics going on. First, there is the content of the specific projects and technological decisions that we need to make. This is an important dimension of DevOps that cannot be understated. The other dynamic is the relational dynamic. Learning to work together. Learning to better understand each person’s point of view, while we work on constructing a shared view of the future of organizations.

These are but two examples and I recognize they seem “mundane” (Carroll et al., 2008; Chia & Holt, 2006). I recognize there is nothing unique or proprietary about these gatherings. From the outside, it looks like people sitting in a conference room or a large meeting room. But that is looking at from a Cartesian perspective. From a constructionist relational leadership

perspective, the conversations we are having in those different spaces and the shared meaning we are developing is making all of the difference between coordinating activities and operating as a functional system.

One of the pitfalls that leadership actors tend to do is to ignore and act indifferently to the people in their organizations. The individual contributors don't often establish a relationship or a connection with the senior leader in an organization. In multiple different work environments where I was the middle manager, my team members would often complain that they had not seen the head of our organization in months. Often, the top executives felt working and dealing with the front line team members was the job of the frontline managers and their middle managers. However, I have come to see that if a technology leader wants to change the game and transform their organization (whatever that happens to be in their own context), then they must engage fully with all members of their organization. I am not aware of any technology that is able to replace the in-person conversations between people.

By maintaining a connection with the teams in the organization, a space is created for changing the future that is co-constructed in dialogue with others. The C4 meeting as well as the all staff weekly touch points are not solely managed by me. We practice shared leadership, where multiple people, both managers and non-managers share ideas, and offer recognition of each other's work. I think that is an important aspect of maintaining a connection. This is not just a single connection, but it's the practice of developing and maintaining connection across the network of actors. It is a post-heroic form, not the single charismatic leader dominating all of the space that is available in these gatherings.

### **Practice #4 Integrity and Trust: A Constructionist Perspective**

A careful reading of the literature as well as my experience in working with teams has demonstrated the importance of integrity and trust as a practice for establishing and maintaining a connection with others. This presentation of integrity might sound different from the more conventional understandings that become part of many company's operating values. One does not have to look far to observe what happens in relationships when there is low or no trust established. But what exactly is integrity and trust from the standpoint of observing them as practices that can be experienced rather than concepts to be understood.

#### **Relational Integrity**

I see that integrity is another important practice that is closely linked to the use of language. Someone who has integrity keeps their word and is consistent about what they say; not forgetting the commitments made until they were fulfilled. In my experience, what stops relational leadership from occurring is a lack of trust and integrity in the speaker. That kills any opportunity for further dialogue and engagement. Cunliffe (2008) suggests, "if we really believe our lives are so interwoven then this brings a moral responsibility to speak and act with integrity" (p.132). Like other practices that arise out of one's being, integrity is an ongoing conversation that unfolds with others in situations.

Argyris (1991) perceptively observes, "Put simply, people consistently act inconsistently, unaware of the contradiction between their espoused theory and their theory-in-use, between the way they think they are acting and the way they really act" (p. 101). Through conducting my re-search, I have come to recognize that integrity is fundamental to being a relational leader. Jensen describes integrity as someone who is "whole and complete" This is a process that occurs when



We can honor our word in one of two ways: first, by keeping our word, and on time; or second, as soon as we know that we won't keep our word, we inform all parties counting on us to keep our word and clean up any mess that we've caused in their lives. (K. Christensen, 2009, p. 16)

Keeping my word and honoring missing word is the single fastest way to establish trust and produce a situation for engaging in higher quality relationship. It is not a surprise that employees often distrust their management teams. They can't always articulate why that is the case, but as I speak to my staff and colleagues, the break in trust often happens when the "leader" does not keep their word, particularly about major changes within the organization, such as layoffs, outsourcing, or moving offices to another state. Sometimes the lack of integrity shows up in smaller, more mundane activities where certain promises are made about purchasing a technology, sending technical staff to training or a conference, or even making statements about supporting a flexible working environment, yet when employees ask to work from home, the request is outright denied or the employee feels at risk for suggesting it.

Since relational leadership from a constructionist perspective is concerned with the linguistic turn, keeping one's word offers a fundamental practice. Leaders who see the need to transform their organization to operate using the DevOps approach must proceed by checking their integrity and ensuring they are building trust along the way and ensuring that other team members are also maintaining their integrity. If the operations team makes a commitment to automate the technology built of new virtual systems and then grant access to the development team, they have to deliver on that promise and honor their word. In the same way, if the development team agrees to provide operational support and participate in the 24x7 on-call rotation, then that team has to answer the phone and join calls as needed on the weekend and after hours. I have experienced a total loss of trust and respect from an operations team when they call multiple cell phone numbers, searching for an engineer and are unable to reach anybody

for hours. Events like this set the entire organization back because a lack of trust will hold people back from sharing and actually helps maintain the siloed organizational structure of the “us vs. them” mindset. “Without integrity, the workability of any object, system, person, group or organization declines; and as workability declines, the opportunity for performance declines” (Erhard, Jensen, & Zaffron, 2009, p. 17).

Keeping integrity is not a luxury in a DevOps world where high levels of trust are required. As I have been able to demonstrate by exploring the relational leadership literature, as well as my narratives, if leadership is based on a dialogical process where people are co-constructing the future together, our words and what we speak needs to be whole and complete. Our promises and commitments need to be unbroken.

Reflexivity plays an important role in helping maintain my practice of integrity. I have made it a practice to ask basic questions of myself.

1. Did I make commitments, assertions or promises with the intent to deceive or hide the truth?
2. Did I offer my word and now I know that I cannot honor or keep it in the future?
3. What are the consequences of the statements I made in this last conversation?
4. Am I willing to stand by my assertions and defend them?
5. What’s my response to seeing someone else break their promise to me?

These are some of the examples where reflexivity helps. This is consistent with Cunliffe and Eriksen’s (2011) notion of *relational integrity*, which they define as “respecting and being responsive to differences, being accountable to others, acting in ways that others can count on us, and being able to explain our decisions and actions to others and ourselves” (p. 1444).

### **Practice #5 Confluence: A Dialogical Practice**

One of the main points that most constructionists would agree on is the importance of language and discourses that constitute our co-created social reality. As an observer of what goes on in organizations, what shows-up for me is conversations. Leadership is conversations. Without conversations, nothing gets done, since conversations are required for communication and coordination between two or more people (Carroll et al., 2008). Using language effectively and cultivating the ability to create meaningful, relevant, and valuable narratives is an important practice that is linked to reflexivity (Cunliffe & Eriksen, 2011).

Language can be used to create open spaces for dialogue to occur, or it can be used to dominate and silence voices of others, while amplifying the voice of the leader in the group. In relational leadership, the leadership actor is accountable and is self-reflexive about their use of language and the way it impacts those who are in the conversation.

Hersted and Gergen (2013) write, “If the contemporary organization is to thrive, it is essential that information, ideas, opinions, and values move freely across the borders that otherwise separates the organization from its context” (p. 27).

We recently purchased and installed a tool called Confluence. This tool was designed to allow multiple departments, functions, and teams to interact with each other and share information that would otherwise be hidden or remain as “tribal knowledge” with only a few individuals. This tool was an example of the importance of sharing information and approaching dialogue from a technology perspective. Confluence is defined as “a coming or flowing together, meeting, or gathering at one point” (Confluence, n.d.).

In this section I use the metaphor of confluence as the practice of dialogue that is often missing from organizations. Confluence is the idea that multiple voices come or flow together is

the very thing that sets apart DevOps from the traditional siloed model of organizational design.

Dialogue and entering into conversations can take many shapes and forms. In this section I share what I have learned and experienced so far in my journey to practice being a relational leader.

Cunliffe and Eriksen (2011) state,

Heroic models of leadership are mainly grounded in monologism: based on a single *authority* who is unresponsive to how his/her voice is being received, advocates a particular view or ideology, manages meanings and impressions, and aims to get a common understanding of his/her pre-established view or vision. (p. 1434)

### **Monologue Versus Relational Dialogue**

I was recently talking with one of my employees and I was asking about his work experience prior to joining my team. He told me a story that is not uncommon in today's large and complex organizational structures. He told me he began working for a large consulting practice that sold managed services to allow companies to outsource entire functions, like the helpdesk and desktop support. As he joined the organization, he was informed that he can work from home and a new laptop would be shipped to his home address. "I really had two bosses," he said. "One supervisor was really an HR person who helped me with time off, benefits and other related things. The other manager was the service delivery manager for the outsourcing deal."

He explained that he never met either of his managers, only spoke to them on the phone, and even that was often brief and transactional in nature. When he decided to leave and offered his resignation, no one responded until just a few days before his last official day at the firm. The HR manager called him and apologized for not responding sooner. She then asked him, "I know it might be too late to save, but is there anything we can do? The client really likes you and would prefer that you stayed on the account."

He politely declined their offer and decided to work at a smaller company. “It was really an odd experience. I was just asked to box the laptop and ship it back. It was seriously that impersonal!”

While this story did not surprise me, it was a great illustration of the challenges facing most businesses today. This story illustrates what it feels like to work at a company where there is no dialogue between managers and their staff. The practice of dialogue that I share here is perhaps the secret ingredient to high performance DevOps teams.

What has continued to surprise me is the disconnect that exists where most people recognize the importance of engaging with one’s clients (Argyris, 1991). When I was consulting, my manager would often remind me “if you’re not talking with your customers every day, your competitor is.” Why is that important? Conversations with clients, builds trust, loyalty, develops understanding, and allows the two parties to build agreements on the future that hopefully will lead to a partnership or closing a deal. It is dialogue for coordination and to negotiate action in the future. At the same time, the internal relationships and dialogue between teams and across the organization is not perceived to carry the same value as the external relational leading that is required of sales professionals.

One of the reasons I have been successful at leading change in my current work environment is I have been intentional about asking other leaders to engage in the dialogue about what we need to do to be a world-class technology operations organization. Technology managers have often suffered and negatively impacted their situation by not including other thought leaders from across the different functions which might include legal, human resources, finance, as well as engineering, and the product teams. Although I have been told the practice of

having other leaders join my staff meeting is rare, I do this because it broadens the conversations and brings other important view points, exposing new issues we might not have considered.

Hosking (2012) suggests dialogue

is theorized as a slow, open and curious way of relating characterized (a) by a very special sort of listening, questioning, and being present; (b) by a willingness to suspend one's assumptions and certainties; and (c) by reflexive attention to ongoing processes and one's own participation. (p. 469)

My learning about language and experiencing the power of conversations for forming actions and everything else has been one of the most exciting and empowering learning experiences in my journey. Conversations for Actions is a shorthand for the realm of speaking and listening that takes place amongst teams.

I start with this reflection because much of what I see as high performance delivered by my organization is connected with an ability to co-create our future and establish a shared mission and vision by having conversations; not once or twice, but recurrently as we make and share and clarify meaning. The leader that wants to hold an annual or quarterly all-hands and hopes that everyone will just "get" the message and jump into action will continue to be disappointed by the results.

Much of the work of relational leadership has articulated this concept that leadership happens in conversations. If that is the case, then what happens when leaders are busy responding to emails, withdrawn from their team and not engaged in conversation across the organization. I consider the work of responding to emails, approving purchases, and attending status meetings to be the work of administration, but not leadership. Administrative work is required, but that should be considered as the "price of entry" for leadership actors.

### **“Shifting Conversations, Shifting Reality, and Context”**

It was early April and we had a big celebration; it was the end of our first fiscal quarter, and we had an incredibly challenging 90-day stretch. During an all staff meeting, the president spoke about how well the technology team was performing and spoke of the many projects and “value” we had delivered over the last quarter. This meeting was held with all 3,000 employees, listening and watching the web conference presentation. It was a good day for my colleagues and me, so we celebrated by going to a nearby brewery. We had good conversations and we reflected on both the difficulties of our work, and also the recognition when things go well. Just a few short weeks later, we were thrown into a crisis (breakdown) and the many different actors (including me) shifted from thriving into survival mode. The only “thing” that happened between these two situations or context was a single meeting that started early, at 4A.M. with the same president of the company. Afterwards, I sat in astonishment at how fast the reality had changed, and again, we found ourselves in the same brewery, except this time we were lamenting at how bad things have gotten and how do we get out of this “cycle of despair.” Cunliffe (2011) describes this shifting as “social reality relative to interactions between people in moments of time and space.” (p. 654).

Much of my thinking lately has revolved around how leaders use language to make meaning and create narratives in interactions with their teams. Some leaders are able to construct nasty situations for their teams, as when a leader declares, “We are too busy and have too many projects need to be completed before the end of the year. Unfortunately, this means no training or conferences for the staff.” A sense of urgency was just created, which can sometimes be good to energize a department (e.g., Kotter, 1995; Kotter & Schlesinger, 2008), but another dangerous narrative was also communicated, which is “I don’t really care about your professional

development and the time you need to improve your skills.” I have also seen the same mechanisms play out in such a way that conversations create new hope, energy, inspiration and greater commitment to achieve the company’s objectives. Although this is my stance as a scholarly-practitioner, I am still learning, developing and refining my thinking regarding how I see the nature of being in a social context.

### **Where You Practice Might Be as Important as What You Practice**

One important assumption that I bring to these relational leadership practices that I would like to make explicit is that, as technology leaders and technology employees, we are free to choose our workplace and the environment and culture that we want to participate in. As obvious as this might seem, I came to this realization one evening as I was practicing reflexivity. It was during a time that I was doubting the impact I was having across the organization to help make the environment more consistent with my values and a desire to create a workplace where people are not being disrespected in undignified ways. As I was thinking about why I was not making progress, I suddenly came to a horrible conclusion: I was being used to sustain a culture that was in direct conflict with who I wanted to be as a technology leader. If my presence in the organization was going to legitimize, or help bad leadership practices and behavior that were not promoting my values, then I should hold myself accountable and see myself as part of the problem rather than solution. Martin Luther King, Jr. (1988) said, “The ultimate measure of a [person] is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy” (p. 49).

That idea was both liberating and scary. I recognized my presence in the organization was not going to help improve the culture. It was actually having the opposite effect by sustaining and supporting a management philosophy and approach that was simply inconsistent



with the relational leader that I wanted to be. Maturana and Valera (1987) talk about the “knowledge of knowledge compels” (p. 244). I began to work through a process of reflection and action. I remember coming home and sharing with my wife my decision and my plan for exiting from my work environment and taking as much time as I needed to discover the right organization and leadership philosophy that would be aligned with my stance and the kind of leader that I want to be in the world.

Fortunately, I was able to find an organization and a team that seemed more consistent and open to my approach to leadership. I share this story because my professional progress would have been stunted if I had decided to remain in a work environment where I was not able to fully express myself and apply these practices in a fulfilling way. So the first thing an aspiring relational leader needs to consider is if the work environment they are in can properly support their growth and learning, or perhaps a new organization might better align and thereby accelerate the learning. I also recognize that there is no perfect or ideal organization. I have come to believe that by better understanding one’s core values, one would be able to find an organization that is suited to support them.

In the 2005 Stanford University commencement, Steve Jobs said,

Remembering that I'll be dead soon is the most important tool I've ever encountered to help me make the big choices in life. Because almost everything — all external expectations, all pride, all fear of embarrassment or failure—these things just fall away in the face of death, leaving only what is truly important. Remembering that you are going to die is the best way I know to avoid the trap of thinking you have something to lose. You are already naked. There is no reason not to follow your heart. (para. 18)

Whenever I hear his speech, I am reminded of how little and precious the time is that we have to make a contribution and try to do great things professionally. Selecting the right company to work for is probably the single most important career decision. And what’s important is to have

the courage to make the necessary corrections when you feel that a management team or the culture has lost its way.

### **Relational Leadership and Leadership Development**

Although I did not find this explicitly mentioned in the relational leadership literature, I have been reflecting on the idea that perhaps a constructionist perspective on relational leadership is part of a developmental cycle, where one does not start at the relational leadership, but grows into this broader understanding of what it means to be a leadership actor. I say this because relational leadership requires competencies and skills that are rare among new managers. You need to be able to listen and speak in new ways. This requires a deeper sensitivity, reflexivity, and a higher level of awareness. In others words, I am suggesting that relational leadership does not just show up without the leadership actors having honed and developed themselves in a way that allows them to be effective participants. I believe this is less of a critique and more of seeing there is a process that enables leaders to effectively learn and to be a person that can carry on this work.

There are similar parallels with DevOps. Learning how systems operate without the automation, configuration management, and deep monitoring is an initial step along a maturity cycle. One must begin with the basics first and deliver them consistently, before tackling the more complex practices, like operating an application from multiple data centers across the globe. From a relational leadership perspective, with education, coaching, and embodying certain practices, we can improve our capabilities and capacity to be relational leaders. These practices have helped me perform in my role and achieve results that have been characterized as outstanding by others. While it might appear that I am only focusing on the individual as the leader, I don't restrict that role to people holding a particular title in an organizational hierarchy.

Team members can perform in the dance of leadership. So these practices are positioned as a starting point for opening the possibilities to enter into a more meaningful relational leadership interactions.

In this research project I followed a path throughout the territory of leadership studies. I began with the premise that our conventional ideas, theories and popular business books have presented an outdated approach to significantly place the emphasis on the individual and her traits, attributes, and behavior. My experience in several high technology work contexts has allowed me to see what many scholars have suggested: the shift to a knowledge-based economy has required us to re-think our approach.

I have also tried to outline the main developments that are occurring in the technology department. The DevOps movement has confirmed for me that the world is really changing. The DevOps movement is a “post-heroic” approach to running and managing complex technology infrastructures, where people work not only in teams, but across disciplines and even across different organizations in the pursuit of common goals. The DevOps movement has no leader, but lots of people making a contribution to furthering a movement that aims to simplify and automate the world’s systems that run and host websites and services. I shared the connection between a social constructionist view of leadership and how relational leadership scholars are working to enhance our view of the importance of seeing leadership as a process that occurs in between people.

## Chapter VIII: Implications for Leadership and Change

UNLESS someone like you cares a whole awful lot, nothing is going to get better. It's not.

(Seuss, 1971, p. 58)

### “Relational Connections”

The birth of my first child, Samuel Alexander, has brought to me many new experiences. On July 30<sup>th</sup> 2011, the night before I was leaving early in the morning to travel for my first PhD residency, is when I first learned that my wife was pregnant. The news brought many emotions: shock, disbelief, elation, as well as worry. I was faced with a dilemma: do I get on that plane in the morning and start my doctoral studies in Leadership and Change, or do I forego, or at least put my education off, for a few more years until I can return to a more stable family life.

Fast forward to a few months ago. We are watching the animated film, *The Lorax*, and I hear that famous Dr. Seuss quote: “Unless someone like you cares a whole awful lot, nothing is going to get better. It's not.” At that point it occurred to me that my Ph.D. journey, as well as the dissertation, was an expression of my caring about my practice as a technology leader and concern for uncovering new practices in an effort to improve what I see as the dying cows in my industry. My relationship with my son, and now baby daughter, continues to teach me what it means to be a relationally responsive human being. As I described in the previous chapter, integrity is about being whole and complete. Constructing a life that has integrity across the different domains (i.e. family, work, education, play, etc.) has continued to be a focus for me. When all of the wheels of life are aligned, there is a greater chance at delivering higher performance.

Fast forward yet again. It's Friday afternoon and I have been preparing for this event for a few months. As the starting time drew near, I was anxiously watching the clock. With fifteen

minutes prior to start time, I left my office to head to the large meeting room where the event was going to take place. It was going to be the first product and technology symposium of its kind. My work in relational leadership and DevOps was the source of my inspiration for creating a symposium that would include the different organizations that rarely meet together in this capacity outside of an all-company meeting. I was anxious because I wanted the event to be a success and I knew that if I were to continue to help change the organization by breaking down silos, people needed to “feel” what it means to operate in a different context that was not entirely defined by the team that we belonged to.

A few moments before I started the meeting, I noticed that my CEO had walked to the front row and sat down. He was there before many of my peers and others had arrived. I was excited to see him wanting to participate and engage in the experience. As I was welcoming everyone and offering some introductory remarks and shared the purpose and expectations of the technology symposium, I noticed that the room was filled to capacity and a new row of people were now standing in the back. The concept behind this meeting was to begin increasing our capacity to expand the conversation between organizations, and breaking down silos between four distinct organizations. It was DevOps at a grander scale than the typical operations working alongside engineering. It was a time for members from each department to share insights and work they were proud of.

After each presenter finished there was an opportunity for questions and answers, and this is what made me so enthusiastic about what was happening in the room. Different parts of the organization were learning from each other and creating new meaning for what we are trying to accomplish as a company. Multiple times during the session, with over seventy-five technology

professionals in the room, “Ahas” were heard and new understanding about our vision and technology capabilities were disclosed in new ways.

At the end of the presentations, I invited people to continue the conversation over a “Happy Hour” that I had sponsored with food, beer, and wine. As I stood there feeling elated as people from different departments mingled and delved deeper into the topics that were presented, I wondered how powerful the relational leadership concept can be when enacted across the organization. At the end of the event, my CEO pulled me aside and was also very pleased at the level of engagement and the quality of the conversation that took place in the room. He finished by saying, “We have to keep doing this; this is so important for aligning and staying true to our strategy as a company.”

The planning for the event and the conversations that I had with my peers to collaborate and get this event schedule and well attended was a direct reflection of the practices that I have learned during my doctoral journey and inquiry into a constructionist relational leadership paradigm. Dr. Seuss and Max Van Manen both have hit on a practical truth. This story illustrates the types of personal and work transformations that I have experienced while conducting the research and writing. By sharing this story, I am hesitant that it smells of a return to the “heroic leadership” where I am the single individual doing all of these things and essentially manipulating people to behave a certain way. On the contrary, a number of individuals across the organization are engaging with me to help improve our ability to collaborate, communicate and coordinate action. “leadership is fundamentally more about participation and collectively creating a sense of direction than it is about control and exercising authority” (Denis, Langley, & Sergi, 2012, p. 254).

But this type of transformation must have a beginning, a source that initiates the conversation. My assumption is that as people begin to challenge taken-for-granted views of what it means to be a leader, they will recognize the power they have and begin to create a new linguistic and practical context for themselves to participate in the leadership process. Ruth Behar (1993), the anthropologist, wrote, “Each of us needs to write our lives as an act of personal witness” (p. 20). By using my professional and personal life experiences, I have attempted to do that in the context of discovering and re-imagining what a relational leadership approach can do for people looking to embrace DevOps as a way to transform their organizations.

### **Leadership and Change Implications**

Throughout the process of researching and writing my inquiry, I have continued to run multiple article and dissertation searches. As of June 2014, I have continued to run multiple searches including the terms “DevOps” and “Relational Leadership” and have yet to find any other research dealing directly with the topics that I have raised here. Thus, I recognize that my study is exploring uncharted territory. One that I hope other practitioner-scholars can use as a building block to improve both theoretical and practical (applied) understanding. This work represents what I consider to be researching new and evolving movements in the technology industry that will have lasting positive impact on technology workers. This dissertation is the first of its kind that explores a constructionist relational leadership approach to DevOps management and leadership perspectives.

I began the dissertation with Davenport’s (1997) quote:

The state of IT-oriented research is downright dismal.... Much IT oriented research is neither comprehensible nor practical.... The journals in which academic IT research is published are rarely read by practitioners.... They are often unfathomable, even to other academics.... [The] publications contain pseudoscientific jargon, arcane statistical techniques and slavish footnoting. (p. 38)

I produced this research because I wanted to offer a new perspective on relational leading that would inform the practices of leaders working in a DevOps context. I have written this work from the perspective of not only other scholars reading and evaluating it, but also hope that practitioners can use the distinctions and practices as outlined and begin to change and better inform them what it means to be a DevOps leader. Using Nash's (2004) approach of scholarly personal narrative (SPN), this inquiry has served as a way of bringing together my current theorizing and presenting new ways of thinking and perceiving to save the "dying cows" in my IT industry. The social constructionist view of relational leadership (Cunliffe & Eriksen, 2011; Hosking, 1995; Uhl-Bien & Ospina, 2012). As Cunliffe and Eriksen (2011) have articulated, "relational leadership is both a way of theorizing leadership and being a leader: a practical theory that 'increases the prudence or social eloquence of practitioners by enhancing their ability to discern and draw upon the resources of particular social settings'" (p. 1428).

As I described in the previous chapter on leadership practices, I would like to summarize how these practices should be assessed. I have adapted this way of assessing practices from Flaherty (2011) who applies the outcomes of coaching by suggesting that good practices, like good coaching should lead to three distinct outcomes:

**Long-term excellent performance.** Are these practices and the relational concepts being applied in ways that allow the practitioner to meet and exceed the standards associated with their work environment or context? Is the DevOps culture increasing and the quality of the conversation improving overtime? Are the objectives that I outlined in the Chapter II being achieved, like higher system availability, faster time to market, and improved relationships between engineering, operations, product management and the other functions? Practices involve a process of first understanding the distinctions (e.g., reflexivity, dialogue to make sense, and



create shared meaning), then beginning to apply them, in a sense moving from being conceptual and cognitive to embodied.

**Self-correction.** Relational leadership practices should help the practitioner be a better observer of themselves and the people they engage and interact with. Self-Correction is about being connected to the context and make adjustments in the moment as part of the person's self-expression. This is the difference between living in the third person and dealing with situations as they unfold in real-time. This also explains why I have devoted time to articulating the epistemological and ontological issues that are fundamental to better understanding what it means to be a leadership from a constructionist perspective. By learning to *see* the fundamental underpinnings of organizations and the always-already set of conversations, practitioners are better able to self-correct in the moment.

**Self-generation.** Self-Generation is about having certain relational practices embodied in such as way so that as unpredictable situations and issues occur, the practitioner is able to self-generate the response most appropriate for the situation at hand. This premise behind self-generation is that behaviors are an outcome for how the world shows-up for us in language and moods in our body.

### **Applying Relational Leadership Practices in Other Contexts**

As I had described in the previous sections, true dialogue and connecting with the “other,” to create a new organizational context is how a DevOps culture is created and sustained. As I conducted my study, I began to see that other functions in the organization could also benefit from breaking down the barriers to experience collaboration, communication, and coordination. There are many scenarios or situations where this can apply more broadly. In this section, I would like to share a few.

## **Mergers and Acquisitions**

Big silos often exist when one company merges with another or acquires another firm. There are host of challenges when one combines, acquires, merges, and then attempts to integrate business functions and processes. A relational leadership approach can help organizations going through change to increase the speed of their execution because teams that trust and have a human connection with each other will work better together.

## **Executive Leadership Teams**

The leader of leaders is often a privileged role to hold, but it is also one that is fraught with challenges. As part of an executive team, I have experienced first-hand the challenges of not fully understanding the other executives in other functions. This leads to trouble and can be a major cause of issues for the rest of the organizations.

## **Startups**

Just as relational leadership can support DevOps teams, the practices and principles can also apply in other teams where there is no single defined leader, and where teams need to work closely together to achieve the outcomes. This becomes even more important when the goal or the destination is not very well known or clear. Cunliffe and Eriksen (2011) used the experience of the Transportation Safety Agency (TSA) when it was first organized to show how relational leadership can support groups of people who are all working together to figure it out.

It should be clear by now that there are no specific tasks or steps that are required to be performed in a linear fashion. Relational Leadership is not a perspective theory or model. It is a way to observe the world and a set of practices for interpreting, communicating, and coordinating action and meaning with others. So in each context, the leadership actor or team members will need to generate for themselves the necessary actions and narratives that would be

most appropriate for their context. The context for my organization in a real-time analytics software company is different than managing security in the nation's airports. But this is one of the reasons why a constructionist perspective and a relational way of observing organizations and leadership provide a flexible and broad lens with the power to be practical and philosophical at the same time.

### **Breaking Down Communication Silos**

The premise for DevOps has been to breakdown the silos that block effective communications and relationships between teams. In my doctoral journey, I have witnessed the silos that exist in academia that block scholars from entering into conversations outside their comfortable silo and intellectual paradigm that has guided their thinking. Uhl-Bien and Ospina (2012) lament “the lack of openness to methodological pluralism and limited dialogue across perspectives” (p. xxii). It is my hope that one of the implications for this inquiry is to expand the conversation and enter the dialogue. This notion that dialogue, conversations, and relating to others can have a powerful impact in the many domains in our lives, both the public and private realms.

Across the globe, we see breakdowns in relationships with countries not trusting one another, and, even inside of nations, we see different groups fight and actively working to destroy the other. Can relational practices help us begin to understand and connect with others? Can we turn away from destructive behaviors and perhaps declare new possibilities and new ways of being that can help us see that what we think are our “differences” can be articulated in new and more life-affirming ways?

In this document, I have attempted to ask and work to answer the questions that are most pertinent to my work and professional context of managing technology organizations. However,

even after all of the research, reflection, and writing that has gone into the finished product, I remain open to new possibilities for better understanding the phenomenon of leadership and what it means to be a leader. A constructionist perspective has taught me that I need to not hold on too tightly to whatever it is that I believe to be true today. Maturana and Varela (1987) warn of the “temptation of certainty,” and explain, “we tend to live in a world of certainty, of undoubted, rock-ribbed perceptions: our convictions prove that things are the way we see them and there is no alternative to what we hold as true” (p. 18). Certainty is the enemy of learning and responding to new possibilities and insights. In a world constituted by what Vaill (1996) calls “permanent whitewater,” we need to hold a different posture towards certainty—one that reflects an understanding that while I may have a current understanding of a particular phenomenon, I am open to a new more powerful interpretation might be constructed by others that can help me cope and thrive in the world more effectively than the knowledge that I currently hold.

Bentz and Shapiro’s (1998) book on *Mindful Inquiry* has remained an important text for me and it became one of the books that I return to multiple times for wisdom and inspiration. They urge scholar-practitioners to “link your inquiry to the project of reducing suffering or increasing freedom, justice, or happiness in the world, either locally or globally or both” (p. 47). This is not only consistent with Antioch’s mission, but also my own desire to be a leadership actor that works to reduce the suffering of employees and managers in corporate settings. A sign of maturity for me has been to expand my domain of concerns beyond myself, and my own needs and desires, and to see that my life can also be in service to others, without sacrificing my own identity.

The Ph.D. program has provided me with a more defined purpose in life. I once again return to the analogy of “making windows where there were once walls.” My education at Antioch has created new windows to see the world more fully. Scholarship with a purpose is about connecting the unique needs of my community of practice with the knowledge that I have gained as a scholar. There are now more windows for me to observe the social injustice in the world, and not be moved by guilt or shame of privilege, but rather be moved by a sense of responsibility and a commitment to reducing the suffering and increasing people’s capacity to reach their full potential so that they may experience a more holistic life.

### **Conclusion**

I conclude the dissertation with one of the books that I read several years ago and has been a powerful text that has shaped and continues to teach me to *see* the world anew. In Maturana and Varela’s (1987) conclusion to their book, they connect the social phenomenon of relating and accepting others as fundamental and necessary for human existence. It is a beautiful expression of the hope that I have for this work in helping bring the people that work in organizations together. They suggest that the act of love is the ability to “see the other person and open up for him room for existence beside us” (p. 246). They continue by saying,

without love, without acceptance of others living beside us, there is no social process, and therefore, no humanness... To dismiss love as the biologic basis of social life, as also the ethical implications of love, would be turn our back on a history as living beings that is more than 3,5 billion years old. (pp. 246-247)

I began my inquiry with a question that I have been curious about for several years now.

Namely, how can a new constructionist conception of relational leadership and DevOps practices provide new possibilities for being in this new age, where technology plays such a fundamental role in most businesses? I hope that the practices that I defined and have helped in my own work context can contribute to moving beyond traditional conventional leadership as an individual and

towards a more post-industrial leadership theory by offering a way of conceptualizing relational leadership as a set of practices.

Finally, I return to Pasteur's dying cows which I shared in the first chapter as a metaphor for what has been happening in technology organizations across geographies and industries. Just like Pasteur discovered new practices (vaccines) based on a new understanding of science and infectious diseases, my study has proposed new practices for liberating managers in pursuit of DevOps. I recognize that adoption of new practices and new ways of being can be slow, especially if the existing system creates a sense of safety and where established relationships, power dynamics are threatened. I am optimistic that just as Pasteur was able to demonstrate the power and effectiveness of his practices, little by little, the old ways of managing will fade as new leaders begin applying relational leadership practices similar to what I have described here.

**Appendix**

## Appendix A: Permissions

Openclipart.org is the source of the Clip Art in these figures:

Figure 2.1 Development and Operations Tribes and the Wall of Confusion

Figure 3.1 Dominant Technology Cycles by Decade

Figure 3.2 Mainframe Computing Model

Figure 3.3 Personal Computer Local Processing Power

Figure 3.5 Client Server Computing Model

Figure 6.1 Relational Leadership from an entity perspective

Figure 6.2 Relational Leadership from a constructionist perspective

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