

## Chapter One

### **Introduction**

During current times, the world is facing major global threats: climate change environmental crises, expanding economic crisis, poverty, violence, and inequality. The global society needs the humanities to find fair and meaningful solutions to its problems, and the humanities must collaborate with a variety of disciplines, from social sciences to the technological fields, to meet these challenges. Respecting the distinctiveness and complexities of these disciplines, each of them contributing in its own right, the humanities must continue to analyze and propose theories and methods, to combat ignorance, intolerance and injustice, and to act upon the world. (Pettersen and Bjorsnos, 2015, p.5)

As I begin to write today I am reminded of Pettersen and Bjorsnos' reflections on the work of Simone de Beauvoir presented above. Several of the chapters in *Simone de Beauvoir—A Humanist Thinker* examine her interdisciplinary approach and argue that she advances the humanistic sciences. Like Pettersen & Bjorsnos I believe the ideas of Simone de Beauvoir are timely, relevant and accurate for our global world today.

Humanistic research and study teach us not to forget experiences and knowledge of the past, but to reflect upon them and use our collective memory to better address the needs of today's society. For example, to enable citizens to actively participate in the continuous effort to build and defend democracy, key humanistic methods such as critical analysis and interpretation are required. In contributing to the education of today's and tomorrow's citizens, the humanities need to interact with society. This is another example of where Beauvoir's work and life offer an excellent model. Her thinking—rooted in humanistic traditions at the same time inspired by the ethical and political questions of her time—aims at concrete action and engagement.

(Pettersen and Bjorsnos, 2015, p.6)

The humanistic traditions of Simone de Beauvoir speak to concrete action and engagement. Action and engagement are purposeful, thoughtful and proactive – and are imperative. Now, in 2018 it is time for us to step forward to act proactively, collectively and collaboratively to create an inclusive, collaborative, proactive sustainable society and global world for the betterment of all.

Today is a new day – the first day of my academic research sabbatical, and this is my opportunity to tell the story of *Chaos as Creativity*. This writing will be about chaos and about planning. It will be a narrative journey where we will connect two concepts unlikely partners—chaos and planning-- and use chaos, though non-linear, as a pathway to explore how chaos can open our thinking, inspire creativity and become a critical element in planning for today and generations to come.

Over the course of my career as a librarian and a generalist I have developed a perspective for seeing the big picture from the clouds, seeking knowledge, as ways of making meaning - understanding to illustrate and to explore. I share the sentiment of Michael Harris in his most recent writing *Solitude A Singular Life in a Crowded World*, where he refers to the solitary aspect of writing a book. In his words, “as I began writing this book I was dreading the time I’d be spending alone”. He continues and acknowledges that he reclaimed his solitude over time as “moments of solitude started showing up everywhere” (Harris, 2017, p. 41). By that point he was reaping the benefits of solitude. Understanding “solitude” as also “adventure” is just one example of how “chaos” and “planning” function together for me. For me this writing process is an adventure that is daunting and exciting at the same time. I enjoy reclaiming my “moments of solitude” and the opportunity to write, wonder and think and write again all the while continuing to wonder!

*Planning  
for the  
future*

Now, let's begin.

I dipt into the future far as human eye could see;  
Saw the Vision of the world and all the wonder that would be.  
Alfred Tennyson (1835)

The words of Alfred Tennyson, from *Locksley Hall (1835)*, seem fitting in 2018, as he reminds us of the importance of vision and holding onto wonder as we look into the future. As you read this text I invite you to use the ideas and thoughts presented to inspire thinking, explore possibilities, push boundaries, raise questions and provoke the same in others. We live in a time where we are immersed in a world of ubiquitous connectivity through technology and participatory culture that holds tremendous potential. Through it, we can challenge the status quo – and we all have a voice. It is time to create, think, reflect, speak, be heard and act to create the future we want, our future.

My writing is not so much about solutions or answers but a presentation of ideas with interconnections and parallels related to understanding the management of change as an abstract principle. Through the process of exploration we will observe progress toward change along with transformation to reveal interconnections/ inter-relationships and parallels between ideas that encourage thinking, and conversation for enabling a future forward perspective. Ultimately, I hope this exploration will help others to engage and come up with solutions or answers to their own questions or challenges.

## ***Setting the context***

In my role as a librarian my voice is that of a generalist. Over the course of my career I have worked in a variety of library environments, which I call the continuum of libraries and am sharing my broad perspective. “Libraries as an institution are one of the key structures that hold and deliver information to our community.” (Wilkins, 1995, p.1). Libraries hold culture—past, present and future.

In the Opening Statement delivered at my Dissertation defense in 1995 I said this:

our society is experiencing tremendous change (economic, social and technological). It is evolving from a post-industrial to an information-based economy (global influences – globalization of our society – particularly as it relates to doing business and the way society functions). Societal changes are impacting libraries and the role of librarians. As a library professional I see first-hand how increasing demands require:

- 1) Information be delivered in multimedia form, and it needs to be timely, relevant, accurate and secure
- 2) Information needs to be managed and interpreted because of volume, while ensuring the accuracy and integrity
- 3) Standards and security are required because of the ease of manipulation of data and information through technology

We need to understand the foundation of the library environment and the role of the librarian to be able to use information effectively for strategic advantage—in business and education and to preserve information for historical purposes and we need a direction for the future library environment and the role of the librarian. We also need to understand the issues raised as a result of the changing library environment and the role of the librarian in order to create an effective library environment to meet needs and train professional to meet these new challenges. My dissertation focuses on these issues and presents a framework to address this problem (Figure 3).

(Wilkins, 1995)

With the benefit of the passage of 20 plus years, I am convinced these fundamental aspects of managing information are continue to be part of an expanded continuum we see today. We are immersed managing information in all aspects of our work as professionals. The rate and trajectory of change is increasing. The continuum of managing information is also top of mind for the working and academic lives of our diverse library user community. Our library users have become more directly involved and informed about these aspects of information management.

I do see in today's information knowledge based society that we are cognizant and mindful of the need to ensure that our information and knowledge is timely, relevant,

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accurate and secure. These four key concepts are constantly being challenged by those with competing interests. Some of our current information tools, such as social media that enable us to connect together as a community, have also made it easier for the interlopers to infiltrate and corrupt our information spaces--digital, ephemeral and print based. Challenges related to information and knowledge are evident in academia, research, the public milieu and across our diverse user community and society more broadly. These challenges need to be managed and we need to be informed about how best to mitigate these challenges going forward. As our information and knowledge based society continues to evolve, I continue to be curious about the role of libraries in our society and in education. In my view, in the era of “Fake News” now more than ever we need libraries and education to stand for and broaden our knowledge and scope in terms of managing access to credible, authoritative information. Consider libraries as the guardian of knowledge of the past, present and future as symbolized by the ancient roman God Janus (Wilkins, 1991). Libraries are the credible source for access to timely, relevant, accurate and secure information. Libraries have a critical role to preserve, hold, curate, disseminate and foster culture and knowledge-building through learning today and into the future. When you are in a library – be it a physical or digital library -you can be anywhere in the world and in any time frame. We have achieved the global library without walls and we need to be vigilant about holding the library as our cultural heart with a foundation based on supporting the full knowledge cycle.

*Libraries  
hold  
culture –  
past,  
present  
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## **From 1995 dissertation to 2018 research**

With a solid academic and practical foundation in libraries and in managing information and change it is time to step outside of my comfort zone, libraries and education, and leap into my new world to explore chaos as creativity. I am following my passion for exploring new ideas and interconnections as an abstract principle.

I am choosing my words thoughtfully and am mindful of using language to convey my ideas while striving to engage a broad readership to make this writing meaningful for today and for generations to come. Connecting chaos and creativity may seem unsettling, which is deliberately thought provoking, and proactive. The manuscript is suggestive of a series of parallels between domains and processes. The planning process, outlined in Chapter 2, is titled the Chaos Strategies Planning Process which is the title for the diagram in Figure 1. It follows the discussion of the Process in Chapter 2. The Planning Process is conceptually based on deterministic chaos theory drawing parallels from chaos theory. In discussion about the Process I refer to it using several terms such as process, model, construct, framework and overview and all of these are to be considered synonyms. In Chapter 3 we will learn about chaos theory broadly. My thinking and learning about chaos theory began while reading about the work of Edward Lorenz. In 1963, Lorenz published a technical paper titled “Deterministic non periodic flow”, and he discovered the butterfly effect which went unnoticed at that time. The term “the butterfly effect” was recognized by others later and made famous in 1972 when Lorenz presented a conference paper entitled: “Predictability: does the flap of a butterfly’s wings in Brazil set off a tornado in Texas?”. The butterfly represents a symbol of beauty connected to

*The  
Butterfly  
Effect*

creativity. We will discuss the work and findings of Lorenz and the “butterfly effect” further in Chapter 3.

## ***Chaos as creativity***

Let’s consider how chaos and chaos theory can be useful in planning as a pathway to foster creativity. I am most interested in thinking and writing about chaos as creativity. For the remainder of Chapter One I will highlight key ideas from the chaos literature that I see as an integral part of planning and necessary to foster creativity. The key ideas we will consider include; linearity and non-linearity and how they co-exist, cause and effect and influence and how they are related, the use of language to influence and to communicate how disruptors can be seen as positives; and finally, the recurrence of chaos, its history and continued relevance across disciplines. These ideas are interesting from several perspectives, not least of all because such they can be related and interconnected. I am using chaos theory to describe how planning is necessarily both ordered and disordered. In Chapter 2, I discuss how the Chaos Strategies Planning Process works using the overview illustration (Figure 1) as a visual to support the planning process. This discussion will inspire readers most interested in thinking about thinking and planning. In Chapter 3, I offer my ideas and discuss my exploration of chaos theory and chaos more broadly across disciplines and its recurrence from ancient times to now. From my perspective, chaos and planning are related in a cyclical process. I consider planning to be a holistic big picture activity that is dynamic and recurring. Systems are less bounded and less systematic than we might think, and thus changing any system will, of course, bring

and be disorderly. Put another way, the planning process is as important as the plan. Chaos is integral to planning, by fostering creativity and providing an opportunity for us to create an intriguing, non-linear pathway to our future. And in Chapter 4, I discuss Chaos theory as a metaphor, consider how we can create a probable future model and share my reflections on the survey of Chaos.

### ***Chaos theory and planning***

In the literature dating from the 1990's there are several authors -- Shipengrover, Murphy, Mossberg, and Richey -- from the discipline of education -- explore possible connections between chaos theory and planning. These authors all attempt to explain the unexplained aspects - that is the messiness of organizational planning and change relative to chaos and relate how these phenomena relate to our current organizational environments. In 1996 Judith Shipengrover published an article entitled: "If it Doesn't Embrace Chaos, Can it be Called a Strategic Plan?" (Shipengrover, 1996, p.1) and it remains relevant because the one constant of the world is chaos. The provocative title captured my attention. This article presents one of the most compelling cases for connecting chaos theory to strategic planning. Shipengrover suggests that we consider several dilemmas that are not fully explained by the strategic planning process. Specifically, she cites cases where, despite having strategic plans in place organizations may not really know where they are headed and the pathway forward is not clear because there will be disruptors that make it appear as if the system does not know where it is headed next. In some cases, organizations

will appear to move forward despite these disruptors, with some aspects of plans showing evidence of successful implementation and yet some plans will simply not happen or be implemented. Some organizations may improve in the short term, only to lose momentum in the long run. These are challenging situations for planners. Shipengrover points out that these ambiguous/uncertain differences are “universal characteristics of complex systems that scientists call chaotic.” (Shipengrover,1996, p.1). She continues with her analysis stating that: “the approach of strategic planning is not always equal to the challenge of explaining how we cope with such uncertainty and rapid change.” (Shipengrover, 1996, p.1)

In organizational cultures, policies, and structures are not likely to be changed merely through careful planning.

Specifying objectives may induce a temporary vision to bolster confidence. Planning may implicitly facilitate sharing the vision. Planning task forces and meetings may help create shared meaning. Reports may reduce ambiguity and symbolize that changes are on the right track.  
(Shipengrover, 1996, p.1)

These steps sound all too familiar from my work in the school district, college and university library sector environments. They represent communicating a plan, sharing a plan, sharing its meaning and intended outcomes, and confirming those intentions

are being met. But: Shipengrover suggests that we are in a time of great change where our endeavours can be pre-empted at any time, with swings in economies, communities, governments, or technologies that cause, perpetual change. She refers to this state of perpetual change as “permanent white water” and suggests that how we become expert at handling planned and *unplanned* change is better explained by the new science of chaos. She continues to explain that

With new models and new rules, the emerging science of chaos and complexity challenges the way we think about planning. ... The new rules suggest that order emerges from the “messiness” of disorder through experimentation and trial and error. Unlike models of planned change, chaos teaches that there are no prefixed, definitely describable destinations and that we do not know what is going to matter until we are into the journey.

(Shipengrover, 1996, p.2)

Shipengrover elegantly describes the value of the journey, as opposed to the destination, because in a state of “permanent white water,” we cannot know the “outcomes” in advance.

Priscilla Murphy explores some key concepts of chaos theory and notes:

the very term chaos theory is somewhat misleading. She [Murphy] clarifies that although chaos theory incorporates elements of chance, chaos in her view is not random disorder. She suggests that chaos theory attempts to understand the behavior of systems that do not unfold in a linearly predictable conventional cause-and-effect manner over time.

(Murphy, 1996, p.96)

She suggests viewing the system as a whole, as this is how patterns and structures can be revealed or observed. She cautions that it would not have been possible to predict future direction solely based on past history, which is where chaos theory applies, particularly its concern with non-linearity. Murphy outlines the features and terminology of chaos theory, such as non-linearity, strange attractors and renewal. Using chaos theory as a model for managing change and seeing the big picture, she advocates to that things are not always as they appear. This is a familiar perspective and useful in planning when you are trying to dig deeper to understand the scope and depth of a problem or situation.

Mossberg discussed chaos in the context of an academic campus and she challenged the common perception of what we call “chaos whenever we deplore the state of things or simply want to give up” (Mossberg, 1993, p.49). She suggests we challenge our assumptions and recognize connections that are evident in large

dynamic systems as a way to open up our thinking. She calls chaos theory an oxymoron and, like Murphy, sees the value in looking at a system as a whole or from a broader higher perspective. She suggests we try to understand and learn about chaos so that we can manage change, and thus see and solve problems in our global world.

Thinking specifically about education and future instructional design, Richey outlines the influence of theory on instructional-design models of the future. She notes that change in thinking and instructional-design models is anticipated in areas such as chaos theory, constructivism, situated learning, cognitive-learning theory and general systems theory. Generally, instructional design models are explored from a linear perspective but Richey, notes there is growing interest in nonlinear models:

There is growing interest in chaos theory, where chaos theory posits the existence of order within apparently chaotic or seemingly random systems. Richey drawing from (You, 1993) asserts that nonlinear ISD models:

Assume a more holistic orientation, rather than one of mutual causality; are able to better accommodate those factors in a given situation which can interfere with the prescribed design processes; and reflect the dynamic and unpredictable aspects of the learning process.

(Richey, 1994, p.707)

Based upon emerging theoretical developments in the field, Richey anticipates the important influence that chaos theory will have upon the instructional design models of the twenty-first century.

Shipengrover, Murphy, Mossberg, and Richey share several intriguing ideas about how to approach and use chaos theory effectively when managing change and planning. Shipengrover uses “permanent white water” as an analogy for times when we are dealing with unplanned and continuous change. Murphy and Mossberg both allude to considering chaos from a broad holistic perspective. I concur with their ideas and see because we are in a time of constant— both planned and unplanned— change, adopting a broad holistic approach is valuable for problem solving and planning. The key points which they identified are central aspects of the Chaos Strategies Planning Process, as we shall see in Chapter Two.

### ***Key ideas related to chaos as creativity***

As we begin to think about key ideas related to chaos as creativity, let’s also consider the relationships between these ideas in terms of non-linearity and linearity, and cause and effect and influence. Another key idea is the use of language. It is how we tell the story and it helps us to make meaning or sense of and reflect on change. In fact, language is continuously evolving and it influences thinking and can bias readers positively or negatively. As well it recurs in cycles, that is, what goes around comes around. Now consider the relationships between these ideas. For example,

*Explore  
new  
ideas...  
“what if”*

consider chaos and disruptors as positives instead of negatives as they are often characterized or juxtaposed.

Individually and collectively we have a central role to play in the process of planning and creating our future. This is part of our human chaos, but is not always how planning models and processes work, in that they often seek order in complex, dynamic, disorderly, messy organizational environments. We often find ourselves taking the linear approach of cause and effect, which provides a useful framework but does not tell us the whole picture. I am mindful that beyond “cause and effect” lies the role of “influence”, that is, the mess of intangibles related to change and exploration of new ideas. I call this approach the “perhaps there is another view”, “let’s be crazy”, which is to ask “what if?” or even loosely just to say “maybe”. For many at least, linearity is in fact valuable to help articulate and discern facts, from assumptions, but it helps to keep in mind several non-linear key concepts. From my perspective, then, cause and effect- the linear approach- is a useful beginning framework to explore ideas *while keeping in mind* several non-linear key concepts: “go to the balcony”, “apply kaleidoscopic thinking”, “watch out for your blind spot”. These are all reminders of what I learned at Harvard. I think that linearity and non-linearity can work in tandem in the most abstract sense as what chaos theory calls, “strange attractors”. The role of the effective planner is to recognize and acknowledge how linearity and non-linearity work together within a bounded range.

According to Shipengrover:

If we look at such a system long enough and with the perspective of time, it eventually settles down. There are areas the system is magnetically drawn to, pulling it into patterns. The most chaotic systems never go beyond certain boundaries; they stay contained within a shape. Scientists refer to the forces that pull chaotic systems into such patterns as strange attractors

(Shipengrover, 1996, p.3)

In time of change and chaos in my own life quest, I find myself constantly considering “what if”, and “what have I missed”! These are simple but probes valuable for exploring a non-linear perspective when planning. This is how I explore change and chaos and trust that you will find these probes useful for understanding and engaging in the exploration of chaos as a positive. I suggest that being in chaos is critical for perspective in planning and it is part of being human. Shipengrover suggests that one needs to be in the journey to see what is important. Her idea resonates with me as I see that *we have a role at the centre of planning* and chaos is a word for a paradox of a place and as human beings we are wired to continuously renew and look to the future. Looking to renew and get to the future is a cycle and is dynamic, both continuous and ever-present and this is the paradox of things. This is how things are and I recognize that planning is a process we use to get to the future.

This dynamic future oriented cycle is part of our human chaos. I acknowledge though that for some the pathway to the future may be linear and continuous.

In *Words without Music: a memoir* Philip Glass reflects on the work of John Cage who relates that music encompasses the interpretation of music—how we actively play the notes and score of a piece—are intertwined. (Glass, 2015, p.96) I find Glass' reflection insightful in relation to the Chaos Strategics Planning Process, in which the plan and the application of its process, provides a mapping tool similar to playing the musical score. Glass paraphrases John Cage who argues for the crucial role of the individual as interpreter of the music. Similarity in the Chaos Strategics Planning Process the reader, planner, teacher, librarian, writer, all “play” the Chaos Strategics Planning Process “score”. In so doing, all players are engaged in mapping probable future, and have a central role in influencing the process. So the question becomes: How do we embrace chaos to do something differently to be more effective in the future?

Language conveys meaning and everything is in a name, as the saying goes. But we also know language is continuously evolving. In the 1980s, Tom Peters' use of the term “innovation”, was about capturing and expressing ideas for managing change. Today we are seeing and hearing frequent use of the term “disruptors” to convey similar ideas and new directions for change. To some this terminology can have a negative connotation, as we do need to be mindful of language to convey ideas as intended. The terminology used in the Chaos Strategics Planning Process was chosen

purposefully and with intention. As part of our humanity we individually and collectively have a central role to play viewing things positively, not negatively in the process of planning and creating our future and this is part of our human chaos.

With the perspectives of Shipengrover, Murphy, Mossberg, Richey and Glass in mind, however, I suggest we step back and look at the whole picture. This big picture perspective is a fundamental concept that Kenneth and I discussed and built into the Chaos Strategics Planning Process. He was very much a “cause and effect” thinker owing to his study of mathematics. From his study of philosophy he also used phrase “project a probable future. “ We discussed the concept of projecting a probable future earlier in my doctoral work and this key concept continues to be evident in the application of the evolution of the Chaos Strategics Planning process. But I was interested in influence and saw this as a broader perspective and at the same time related to cause and effect. Influence is somewhat grey and ambiguous. The concept of projecting a probable future also expressed as a probable outcome, is where our ideas meshed. We will consider these ideas further in Chapter Two when we learn more about the Chaos Strategics Planning Process.

### **Voicing, curation and how this manuscript ties together**

Voicing and curation are important concepts that resonate with me from my natural voice as a musician and librarian, which unifies performance and presentation as parallel activities. I am not talking about literary voice here. In my view there are three voices tying this work together, each of which plays a role in or is layered with,

the integration and curation of the whole work: the first voice is the Chaos Strategics Planning Process overview illustration (Figure 1); the second voice is the text that explains the process of planning at an abstract level; and the third voice is the narrative text that presents chaos and chaos theory across disciplines and over time frames, a narrative through which I connect chaos to creativity as integral to planning.

Let me give you an analogy. I think about voicing as similar to a musical composition with several integrated layers. For example, Beethoven's *Adagio Sostenuto*, the first movement from the Moonlight Sonata, Op 27, No2, for piano, (music that is likely familiar to many). The musical score is similar conceptually to the Chaos Strategics Planning Process illustration (Figure 1): the score the first layer and voice, the overview. The second voice is the melodic path woven through the score: this is the process of the music, how the music flows and where it leads, which describes how the process of planning is as important as the plan. Finally, the third voice is the repetitive pattern across the score and its performance, representing the flowing concept of moonlight floating over water through music: evoking how chaos, like change continuously swirls and evolves dynamically with some form of repetition.

## **Curating the Chaos Strategics Planning Process**

The Chaos Strategics Planning Process construct is represented in the overview illustration (Figure 1). The illustration is an updated streamlined version for 2018,

based on the original overview diagram that KGW created (@2006-2012) (Figure 2) as an overall representation for the Chaos Strategics Planning Process. Together the updated illustration and the original diagram present a visual in the reader's mind's eye as you think and read through the planning process. For those interested in the original diagram it is included in the Appendix with explanatory notes to set the context and provide background into KGW's ideas. Keep in mind, both the illustration and the original diagram follow the principles of universal design--that is, that the diagram presents enough detail so that it stands alone for the reader to interpret meaning. Kenneth and I agreed that diagrams must stand alone, and we kept coming back to this fundamental design principle as versions, visuals and ideas evolved.

## **Everything is connected**

Thinking about the interconnectedness of the three voices in the musical score and considering how this interconnectedness relates to the Chaos Strategics Planning Process, I draw your attention to the writing of Elana Mannes: “music teaches us everything is connected. Nothing is really disconnected.” (Mannes, 2011, p.212).

Interconnections, interdependence and parallels are by design and critically important in the Chaos Strategics Planning Process. In Chapter Two I will discuss how the Process works. To use the music analogy – melody, harmony and rhythm are interdependent in musical scores and performance; everything is connected.

## **Being provocative**

To conclude this chapter, I am writing now to present the Chaos Strategics construct to inspire ideas and thinking for the next generation. We live in a time of tumultuous change and we truly must be--in fact we are responsible-- *for working together to create a greater world*. I present these ideas to inspire thinking, explore imagination, challenge the status quo, engage communication across disciplines, cultures, locations-- geo-political boundaries, and generations, all to address our humanity and set a path for going forward and creating community for the greater good in our global world.