How Fear, Complexity, and Chaos Can Thwart Innovation
And Why a Novel Approach to Diversity and Inclusion Provides a Hopeful Solution

By Christopher L. Harding

Why is it that, in spite of realizing that certain patterns of behavior lead to counterproductive outcomes, a person, team, or an entire organization will continue to adhere to that same path?

A quote, often attributed to Einstein gets at this point: "Insanity is doing the same thing over and over again and expecting different results."

Humans seem to have an addiction to predictability, even when that predictable path leads to a dire outcome. No one should really be surprised, for example, at the state of world affairs. The exact details may differ from era to era, but we have traveled down this same tumultuous road numerous times.

To be fair, predictability certainly appears to be useful when establishing processes and policies that consistently drive uniform outcomes, quality control and continuous improvement protocols. Following such precise methods can be very fruitful, but they can also create a false sense of security if they don't include elements that expand beyond the normal boundaries of what we think is possible.

That's why the most effective teams employ curiosity, experimentation, and another key ingredient, inclusion, which has been proven over and over again to optimize the standardized rigor of such quality measures.

This vital understanding was also emphasized by Roger Dougherty, an early advocate of the highly regarded process

improvement method, Six Sigma. In his paper, "Six Sigma and Diversity," Dougherty stated:

> We hear much of the 4-sigma "wall" which can only be overcome through the use of Design for Six Sigma. This may or may not be the case, but my personal experience would suggest that the surest way of maintaining the momentum of our Six Sigma journey is to ensure that we involve, excite, motivate, and utilise the human capital of our organisation. A strong commitment to Diversity and the richness of experience that this implies is an opportunity that we cannot afford to overlook.[1]

So, when it comes to facing novel challenges, creating breakthrough products or services, or dealing with chaos, a bias for predictability can, at times, seriously handicap a team or an entire organization, especially if we continually rely on the same go-to people and their familiar patterns of thinking.

A case in point:

I was invited to consult an organization in the U.S. that manufactured silicon wafers for use in the manufacture of semiconductors. Prior to my arrival, one of the baking systems in the manufacturing process had malfunctioned, rendering its output unusable.

The challenge for the QA team was that the system generating the error was utterly unpredictable and they could not replicate the problem. The cost of downtime, lost productivity, and output was mounting along with their frustration.

I joined the 7 AM emergency meeting I'd been flown in to attend and found that the carefully selected group assembled there was receiving word that the same system had

malfunctioned again the previous night, further increasing the losses and their frustration levels. The group feverishly reviewed the latest data and their theories of what was causing the problem.

After witnessing no progress for about ten minutes, I took advantage of a moment of silence and posed a seemingly simple question. "Who *haven't* you spoken to about this?"

The responses were at first quick and angry. "We've assembled our best people here!"

Another person strongly agreed, "We've got our top engineers, line supervisors, managers, *and* scientists in the room."

"Right," I said, understandingly. "And so far, you still don't have an answer. So, who *haven't* you asked? Who might have an unexpectedly valuable perspective?"

Somewhat stunned by my blunt response, the plant manager broke the silence. "We haven't talked to the night maintenance man."

One of the engineers scoffed. "You think the janitor's going to have the answer?"

Another team member ignored the remark and said, "Javier's shift is about to end. Let's get him up here before he clocks out."

As the nighttime maintenance man stepped into the room, he was clearly nervous. Had he done something wrong?

"Javier," the plant manager started, "We need your help with a problem we're having."

Javier's eyes scanned the room nervously. "Yes?" he responded with trepidation.

"Intermittently one of the lines has been over-baking the product at night," the lead supervisor clarified.

"Oh, yes," Javier replied, appearing somewhat relieved. "When the air conditioning kicks on around 3 AM."

"You knew about this?" an engineer said accusingly.

"Yes," Javier responded. "The power seems to dip sometimes when this happens, and I mentioned it to the night supervisor."

Seeing the room's focus bear down on her, the night supervisor searched for a response. "That's true, but . . . "

"This isn't about blame," the plant manager reassured her.

"I also mentioned it to Engineering when it happened the second time," Javier added.

Now everyone's eyes focused on the lead engineer.

"I don't remember that . . . not exactly," the lead engineer responded. "But I know he mentioned *something* to me."

As the meeting progressed, an investigation of the possible correlation between the air conditioning system, the power, and the errant manufacturing line ensued. It turned out that Javier's concern was valid. There *was* a connection. His perspective proved to be the missing link that allowed the team to solve a very costly issue.

So why had Javier not been included in the investigation previously?

As I engaged in coaching sessions with those involved, an interesting pattern emerged.

While the possibility of unconscious bias may have certainly been a factor blinding both the night supervisor and the lead

engineer to the value of Javier's observation, two other factors figured in.

First, the night supervisor shared that she was fairly new in that position and while she had been a line worker on the day shift for years, she was still trying to prove herself as a supervisor.

"I felt like I should be able to figure this out," she told me. "My mind was racing trying to think of something my crew or I might have done wrong." She paused, looking down at the ground for a moment.

"When Javier mentioned the AC," she confessed, looking up at me, "I think I was so worried about the problem being my fault that I didn't even register what he said."

As numerous studies, including those utilizing live MRIs have demonstrated, when stress or fear kicks in, our higher brain functions tend to shut down as the amygdala triggers fight-or-flight hormones. When this occurs, anything or anyone not familiar to us feels unsafe or is viewed as a potential threat.

For the night supervisor, her self-preservation instincts kicked in strongly, and Javier, who she really didn't know at all, was not a resource she even considered listening to.

When I asked her if she felt that some sort of unconscious bias regarding his role as a "janitor" or his Hispanic ethnicity might have played into her perception of him and the value he might have contributed, she paused.

"I'd like to think the answer is no," she said. "But the honest truth is that I don't know. It's certainly possible."

Her openness to the possibility was encouraging.

Diversity—or differences of any kind—create a potential sense of the "other." This tendency only increases when we are under stress.

As Dr. William Guillory describes, in what he refers to as the "Hierarchy of Beliefs," when we are under low stress, have a good modicum of control, and not much at stake, it's much easier to be comfortable with those we consider to be different.

As we reach a medium level of stress, and begin to lose some control, and as our sense of what's at stake increases, we find ourselves becoming less comfortable and potentially less trusting of people outside our normal comfort zone.

By the time we are under high stress, with a significant loss of control, and a lot at stake, our mistrust of the "other" is heightened even more significantly and our susceptibility to unconscious bias is intensified even further.

My conversation with the lead engineer was similar to my session with the supervisor, though the engineer was considerably more guarded. He knew he had "missed the problem," he told me.

Could unconscious bias regarding Javier's role or his ethnicity have played into his dismissing the maintenance man's feedback, I wondered.

"No . . . no, I don't think that had *anything* to do with it. Definitely not." he responded.

His body language, obvious discomfort with the question, and unwillingness to even consider the possibility seemed to indicate there was more to the story.

A moment later, he looked at me intently. "Dammit," he said, pausing to absorb his own realization. "I think it actually did. Dammit!"

And here was the second factor . . . a sense of shame over having allowed bias to impact his decision.

The fact that we are *all* vulnerable to bias is an essential key to catching it while it's happening. But too often, because organizations convey the message that it's not safe to bring it up, or that it's a taboo phenomenon, bias lingers below the surface where it surreptitiously influences our behavior and our decisions.

Over the years, I've seen dozens of such cases. The situations, players, roles, and backgrounds have all been different, but the recurring theme is that our societal habit of "othering" gets in the way of our ability to fully utilize the intelligence and resources available to us. This tendency, and the hesitancy to discuss it rationally, limits both our innovative capacity and our ability to find solutions that evade the normal patterns we are used to dealing with.

The term, "othering," was originally coined in the 1980s by Gayatri Chakravorty Spivak[2] as a term that explained how an empire defines itself against those it conquers or colonizes.

Today it more typically refers to a phenomenon in which certain individuals or groups are defined and labeled as not fitting in within the norms of another social group. It can be a significant factor that influences how people perceive and treat those who are viewed as being part of the in-group versus those who are seen as being part of the out-group.

The tendency to "other" seems to be as old as human history. While it may certainly have been perceived to be a necessity in times past, in the wildly complex, rapidly changing environment of today's business climate and world political miasma, the tendency to "other" is tremendously counterproductive.

This is particularly true when it leads to a pattern of exclusion and marginalization or barring a person or group's access to opportunity. While it is not always apparent, this type of dehumanization impacts everyone in profound ways.

And yet, just at a time when chaos, uncertainty, and complexity are at a peak, the tendency toward "othering" seems to have also reached new heights.

This may be due in part to the increasing ability social media provides groups to globally spread and reinforce myths, biases, and untruths about other groups. This endemic propagation of misinformation and disinformation naturally finds its way into our work environments as leaders and employees bring their conscious and unconscious assumptions and biases with them.

In some ways, this should not be surprising, since chaos and complexity often seem to breed more of the same.

In a 2017 edition of the Medwell Journals, in their paper on "The Role of Leadership for Cultural Diversity Through Linking Chaos and Complexity Theories," Sam Alfoqahaa, Eleri Jones, and An- Najah state that:

> According to complexity theory, systems parts are continually interacting, exhibiting non-linearly and surprising behaviour. Through this dynamic process, systems move from chaotic to more complex situations and can develop into unique structures at the edge of chaos.[3]

In dealing with complexity and chaos, while it is unsettling to some, diverse groups seem to be able to generate better solutions and more accurately predict future outcomes than homogeneous groups. To this point, Scott Page, a professor of complex systems at the University of Michigan, makes the case that cultural and human diversity naturally lead to a greater level of cognitive and contextual diversity.

This infusion of perspectives and thinking styles provides teams and organizations that have learned how to consistently leverage these assets, with a definite advantage in terms of solving problems and making important predictions.

In an article for the Harvard Business Review, Page states, that:

> When "solving a problem, cognitive diversity can trump ability, and when making a prediction diversity matters as much as ability."[4]

A further study by Katherine Phillips, an associate professor of management and organizations at the Kellogg School of Management, Katie A. Liljenquist, an assistant professor at Brigham Young University, and Margaret A. Neale, a professor at Stanford University demonstrated similar results. In their study, diverse and homogeneous groups were presented with the same problems to solve and the same predications to make.

The homogeneous groups were accurate, on average, 52% of the time, while the diverse groups were accurate over 70% of the time. Interestingly, however, in spite of the difference in performance, the homogeneous groups were far more confident in their decisions and felt they were more effective as compared to the diverse groups' assessments of their own effectiveness and confidence levels.[5]

In a Kellogg School of Management article[4], Phillips shared that:

> Though people often feel more comfortable with others like themselves, homogeneity can hamper the exchange of different ideas and stifle the intellectual workout that stems from disagreements.
>
> Generally speaking, people would prefer to spend time with others who agree with them rather than disagree

with them. However, this unbridled affirmation does not always produce the best results.

When you think about diversity, it often comes with more cognitive processing and more exchange of information and more perceptions of conflict," she added. In diverse settings, people tend to view conversations as a potential source of conflict that can breed negative emotions, and it is these emotions that can blind people to diversity's upsides: new ideas can emerge, individuals can learn from one another, and they may discover the solution to a problem in the process.

It's kind of surprising how difficult it is for people to actually see the benefit of the conversations they are having in a diverse setting. [5]

While the overall number of studies done on the topic of diversity's most pragmatic advantages is surprisingly low, the evidence accumulated thus far seems to be reasonably conclusive: Diversity, when coupled with meaningful inclusion, increases the cognitive and contextual intelligence of a group.

Why then, when diversity seems to provide such a logical and pronounced advantage, do some organizations and individuals seem to be so resistant to recognize, encourage, and utilize these apparent assets?

Could our discomfort with disagreeing with someone actually keep us from discovering the best solution to an important problem? In many cases, the answer appears to be, yes.

This answer appears to defy the orderly logic often attributed to a well-trained conscious mind. So let's explore the domain of the subconscious and unconscious to get a better understanding.

For the purposes of this exploration, we will define the subconscious mind as a level of thought and programming typically operating *below* the level one's waking consciousness or overt awareness.

The unconscious, on the other hand, will be defined as the level of consciousness that both operates the autonomic functions of the body *and* stores emotionally laden experiences and trauma in the brain's hypothalamus and in other tissues in the body.[6]

This understanding becomes particularly interesting when we consider that:

> Much of our programming occurred when we were young and our brains were biologically primed for immersive learning. Until the age of eight, children's brains are functioning much of the time in the super-receptive theta-wave and alpha-wave states, Theta-wave and alpha-wave states lend themselves particularly well to experiencing an imaginary world as if it were real.

> In these states, the logic circuits of the neo-frontal cortex are largely put on hold. It's also important to note that in younger brains, these logic functions are not yet fully developed.

> While in this highly receptive age range, a child's brain is more active than at any other time in life. Almost everything a young child sees, feels, touches, and tastes is recorded unfiltered, directly onto the brain's hard drive (the hippocampus). [7 & 8]

So imagine that you grew up in a home, neighborhood, school, and media environment where "othering" was not only the norm, but it had also been intentionally fostered and perfected for political and economic purposes or to reinforce a power dynamic.

Now, picture yourself in situations where stress factors are elevated, stakes are high, and your sense of control is waning. In such situations, you would be mentally, emotionally, and biochemically programmed to prefer *and* seek out homogeneity. You would also find yourself highly suspect of diversity unless—through life experience or the result of intentional personal development—you had transcended such programming.

In such instances, one could certainly exclaim, "It's not my fault. This is how I was programmed."

Regardless of that possibility, what *I* choose to do with *my* past programming and whether I decide to upgrade it or reconfigure it all together is up to me in the here and now.

So what type of personal development might one pursue to override or reduce such encoding?

Clearly there are myriads of methods, systems, and processes aimed at assisting people to elevate their thinking and behavior; to generate kinder, more compassionate, and inclusive outcomes.

One such method, however, suggests that when we achieve a level of consciousness referred to as "Quantum Thinking," it is accompanied by a *natural* desire for inclusion that results in the breakthroughs in innovation and creativity demonstrated in the studies previously mentioned in this article.

It seems that such a transformation is inherently tied to this elevated state of consciousness (or that the state of consciousness is tied directly to a process of personal

transformation). In either case, the result is a deepening sense of wisdom.

In his course on Quantum Thinking, Dr. Guillory explains:

> Every experience an individual has is an opportunity to practice and/or acquire greater wisdom— which results in a greater ability to distinguish between an imagined life-threatening experience from one which is valid. This continuing process of greater maturity also prepares one for overseeing the progress of a working system as well as addressing unexpected crises, no matter the magnitude of the situation. This is a critical skill, at present, for individuals in critical leadership roles.
>
> The greatest challenge we have historically encountered is convincing progressive leadership of the "next" exceptional performance initiative achieved through personal and organizational transformation. The key leadership skills in this case are quantum-thinking to discover the next business or societal paradigm coupled with the hard-density skill convincing others of its validity. For example, the next emerging paradigm beyond technology integration is probably artificial intelligence (AI).
>
> The fundamental nature of *transformation* is the simultaneous expansion in consciousness and the acquisition of expanded wisdom. This is the most important competency needed in leading, overseeing, and addressing challenges and crises in organizations.[9]

In studying the process of Quantum Thinking, Dr. Guillory describes in his new course, I realized that Quantum Thinking seems to be a natural phenomenon that occurs when one's

awareness expands beyond the limitations of one's "normal" or habitual perceptions of cause and effect.

This process may occur incrementally over time without one's conscious awareness, or it may be sought after vigorously by placing oneself in situations where new experiences, significant involvement with different people, and novel, out-of-the-box thinking and responses are required.

At a certain point in time, however, when the accumulation of incremental expansion to one's thinking reaches a critical level, a discontinuous or quantum jump may occur that enables one to perceive a situation, one's circumstances, a challenge or opportunity in an entire new light.

When such an epiphany or paradigm shift occurs, the process of integrating such an insight into one's life can be challenging, as it drives the process of personal transformation in such a way that the new awareness begins to stimulate new behaviors, which in turn generate new results that may no longer fit within the established culture or norms one may have previously found acceptable.

In order to be most effective, the path of intentional exposure to unique challenges is best accompanied by engaging in a training regimen, seeking out a skilled mentor, or becoming part of a related cohort to consistently encourage one's progress while also surrounding oneself with a culture of personal accountability.

In conclusion, the answer to a very valid question the Quantum Thinking approach seems to ask may reach far beyond the usefulness it can provide in terms of organizational creativity and innovation. In fact, it appears that it may to be tantamount to our survival as a species:

> Are we willing to evolve our thinking and our mastery of the various levels of consciousness to such a point that we move beyond the limitations of

"us" vs. "them" . . . to realize that in reality, "*there is no them*" . . . that we are all in this together?

If we do—individually at first perhaps, and then as groups—learn to evolve and expand our thinking to include the more expansive levels of consciousness that Dr. Guillory points to in his work (see diagram below), then it seems plausible that our acquisition of wisdom included in his proposed journey, and the heightened creativity that would accompany us, could facilitate our escape from the increasing chaos and potential destruction our current trajectory seems to be hurdling toward.
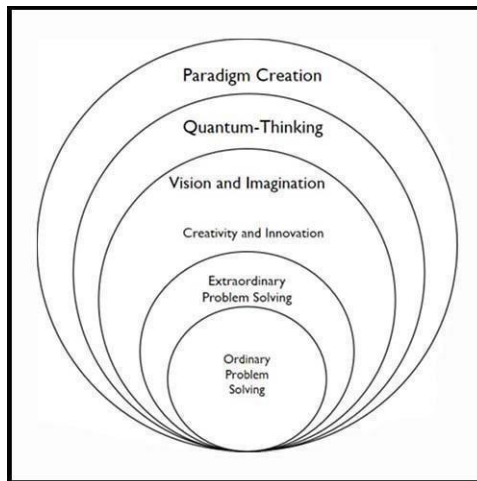
It is conceivable that, only from such a level of expanded consciousness and Quantum Thinking, the true logic and power of diversity and inclusion may be fully realized.

For at such a level, as the theory suggests, we will have transcended our predictively limited thinking and the subversive programming that has kept us trapped in our destructive cycles for far too long.

References:

1. Six Sigma and Diversity – Roger Dougherty and Six Sigma Brokers
   https://www.luminarycommunications.org/_files/ugd/ea8619_e8c227215ee7420ab16a725643 9e809a.pdf

2. Hyper-self-reflexive development? Spivak on representing the Third World 'Other' by Ilan Kapoor
   https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=bece7bb7265981d10f f26d4f892b10851fb4b265

3. Conceptualizing the Role of Leadership for Cultural Diversity Through Linking Chaos and Complexity Theories -- Sam Alfoqahaa, Eleri Jones, and An-Najah
   http://docsdrive.com/pdfs/medwelljournals/ibm/2017/885-894.pdf

4. The Difference by Scott Page – The Harvard Business Review
   https://hbr.org/2007/03/the-difference-by-scott-page

5. Better Decisions Through Diversity – Heterogeneity can boost group performance. Based on the research of Katherine W. Phillips, Katie A. Liljenquist, and Margaret A. Neale
   https://insight.kellogg.northwestern.edu/article/better_decisions_through_diversity

6. The body keeps the score: memory and the evolving psychobiology or post-traumatic stress – B.A. van der Kolk
   https://pubmed.ncbi.nlm.nih.gov/9384857/

7. Thriving in Business and Life – Chapter Two, The Virus of Bias, Understanding How it All Began – Wilkinson and Harding

8. Age-related change in brain rhythms from early to middle childhood: Links to executive function https://pubmed.ncbi.nlm.nih.gov/29863816/
9. Future Perfect Leadership, Part 3 – William A. Guillory, Ph.D.
10. Diagram of Quantum Thinking and Expanded Levels of Consciousness as hypothesized by William A. Guillory, Ph.D: