LOOK AT THE FRACTALS!! ABSOLUTELY WONDERFUL!!!

Corporate Culture and Complexity Part 3B: Simplifying Complexity
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"Our survival as infants and adults depends upon the brain's ability to abstract patterns. Yet this great skill works against us when we get stuck and project simplifications instead of attending to differences. History is filled with examples of prejudice, stereotype, and plain stupidity, where people have grabbed on to a simple idea that works well in one context and shoehorned it into situations where it doesn't fit. … The brain has a nasty habit of clinging to its simplified way of framing something so that after a time the frame becomes reality."
— John Briggs and F. David Peat, **Seven Lessons of Chaos: Timeless Wisdom from the Science of Change** (1999)

When humans oversimplify their complex reality, they lose the richness of the actual reality. In this world of oversimplification, memes often run unchecked and unchallenged. The result is a world in which we see only the simplification. For example, when we oversimplify complexity:

- We operate as if we know everything we need to know.

- We believe that there is only one way to do anything.

- We believe that there is only one truth, and that we can know it.

- We believe that the stories we tell about reality are accurate reflections of reality.

- We believe that all knowledge can be used in similar situations across a wide range of different contexts.

- We believe that we can reduce and simplify complexity using linear thinking, regardless of how complex the situation may be.

These simplifications are like icing on a cake — a little too sweet, and a little too pretty. Simplifications engage us for the moment, but the novelty quickly wears off, leaving us feeling empty and shallow. The memes of simplification may win in what seems to be a war on complexity, but the price this exacts is monumental. As humans, we lose our ability to participate fully in the mysteries that complexity gives us; we lose the best part of what makes us human.

Simplification is not the problem; it is how we are simplifying that is at issue. When we simplify for the illusion of being in control, we lose the richness of the diversity inherent in any complex adaptive system. In order to deal with complexity, we actually must simplify it. But, in

simplifying our reality, we must also keep in touch with what makes it complex — infinite diversity.

In Complexity Theory, infinite diversity within an overall pattern is represented in a concept called *fractals*. A fractal is an *iterating pattern*. To understand what a fractal is, it is helpful to understand what is meant by *iteration*. When you sign your name the way you would sign a cheque, you produce something that you call your signature. If you sign your name several times, you will get a similar signature each time. This ability to produce similarity is often referred to as repetitive skill. This means that you can repeat the act of signing your name, each time producing results that are similar to a standard. We simplify this ability to produce similar results by saying that we sign our name the *same way* each time. In fact, this is not true. Each signature is slightly different from the one before; it is an iteration, not a repetition. However, our minds are not tuned to perceive this difference, due to our memetic need to over-simplify. In simplifying, we lose the richness of the experience, thinking it is the same as before, and, therefore, it is boring and not worth our attention. Perhaps this is not a problem when it comes to signing our names, but it does become a problem when we are dealing with others in a human system.

To understand iteration more clearly, if you now sign your name with your other hand, you will probably experience difficulty. If you sign your name with your other hand several times, each signature will be significantly different, and how you

actually sign your name (position of your hand, the paper, the pen in your hand) will differ as well. That is because you are iterating, rather than repeating. Iterating means that you are following a pattern, but each time it is slightly different. In the case of signing with your other hand, the iteration is pronounced, so it looks *different*, rather than the same.

These iterating patterns, called *fractals*, are rich in diversity and simplistic in overall pattern — one of the many paradoxes of complexity. Here is another example of fractals. You can have infinite variations (i.e., iterations) of women, but all of them still manifest the pattern of female. Fractals are confined by the pattern, but there are an infinite number of ways in which the pattern can manifest itself. If you are a woman, you share many qualities that are similar to other women, but you are also different from any woman who has been on this Earth or will ever be on this Earth. This is what we mean when we say that you need to simplify complexity by keeping its complexity alive and well.

What is more profound about this concept is that it is the very nature of fractals that keeps us interested and engaged. Art, music, theatre, and nature are teeming with fractals. They are soothing as well as inspiring to us. These fractals stimulate our senses and give us a sense of well-being. Appreciating fractals is natural to us as humans. They are required for our health. It is why many people escape to the mountains or go to the tropics — to experience fractals.

Yes, there are fractals in organizations as well. Most of them are found in our conversations with each other. So,

why is it that we cannot appreciate the fractals that are resident in our organizations? Perhaps it is because we find it difficult to deal with these fractals. Thus, we create an artificial world populated by memes that tell us to oversimplify the fractal nature of the reality we experience. We simplify our organizations by focusing and narrowing our perspective, and we lose touch with the complex perspectives that abound in any situation. We focus only on bottom line results, losing touch with the people and their relationships that create those bottom line results. When we lose touch with the fractal nature of our organizations, we can feel lifeless and drab, empty and shallow, often asking ourselves "Is this all there is?"

"If to logic we add harmony and to harmony we add dissonance, then to be rational is to be creative. In a world where we must make rational decisions that affect entire chaotic ecosystems, is it too much to think that we desperately need a new kind of rationality that includes not only our powers of analysis and logical deduction, but also our empathy and aesthetic response to the natural world?"
— John Briggs and F. David Peat, **Seven Lessons of Chaos: Timeless Wisdom from the Science of Change** (1999)