A Big Picture View of Systems and Structures

Ideas seeded by Pamela Schreiner
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These ideas were initially presented to the Social Environmental Alliance - SEA in Victoria, BC on June 24, 2014. The talk was given in collaboration with Mark McInnes, who spoke about the systemic issues around politics.

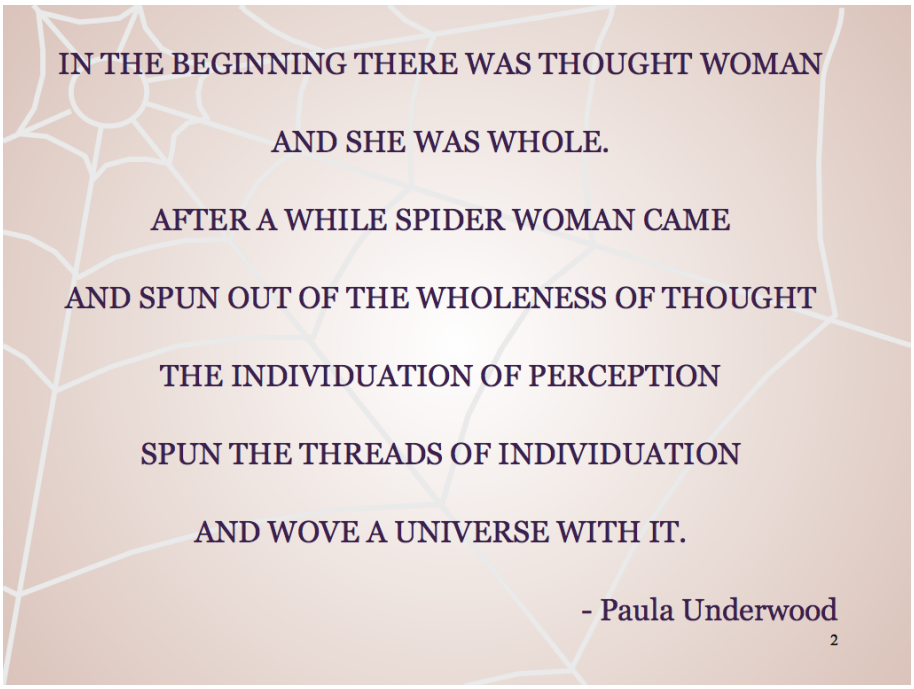
I'm going to tell you about my big picture view of systems & structures, which are all around us. Systems are collections of interacting parts that form a whole, while structure is the relationship between the parts.

Another interesting aspect of systems & structures is that they hold our beliefs. These beliefs have been passed down through many generations. In fact, they form our cultures. It is my belief that there is a deeper purpose within each of us. Can we therefore shift our systems & structures to be reflections of these deeper purposes?

My wish is that this is a collaborative & growing story. I see what I see — and each of you sees what you sees. And I'm sure each of you sees something different than I do — we each hold a different piece of the same story.

Let me tell you about myself, so that you can understand why this story is so interesting to me. I was born in London, England. My first memory is being on my father's shoulders, looking out over a massive sea of heads. Then when I was 4 years old, my sister and I moved to Vienna, Austria while our parents were settling in Canada, and again I was in a massive city. Then, when I was 5, I moved to Saskatchewan. That was a shock to myself as a young girl. I had come from two, big, grey cacooning systems & structures to wide open spaces with big blue sky. It was very windy. It was extremely cold and extremely hot, and I felt lost…….

To begin, I want to tell you about the creation of the universe as told by some Native American people. I'll quote Paula Underwood:

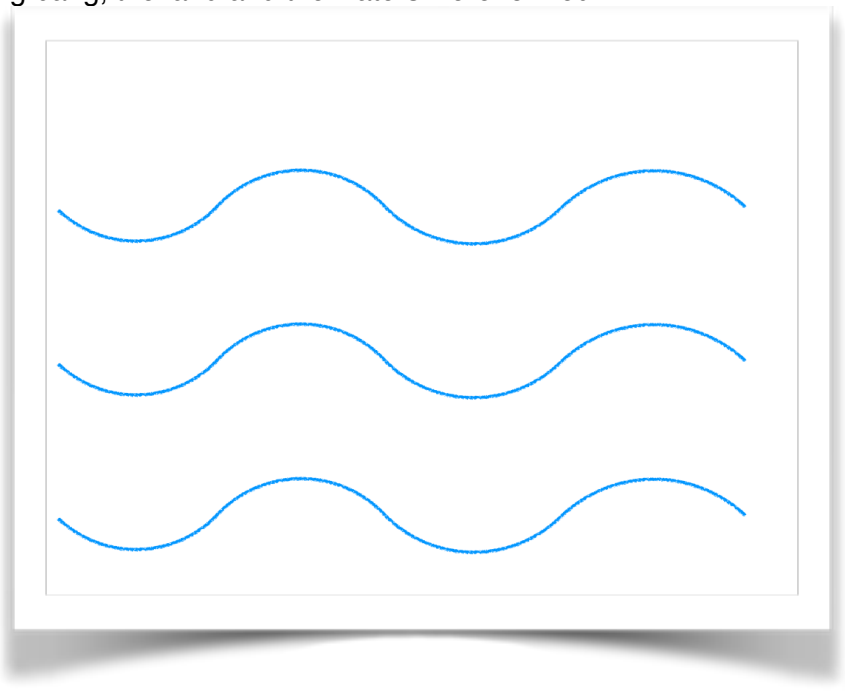


History

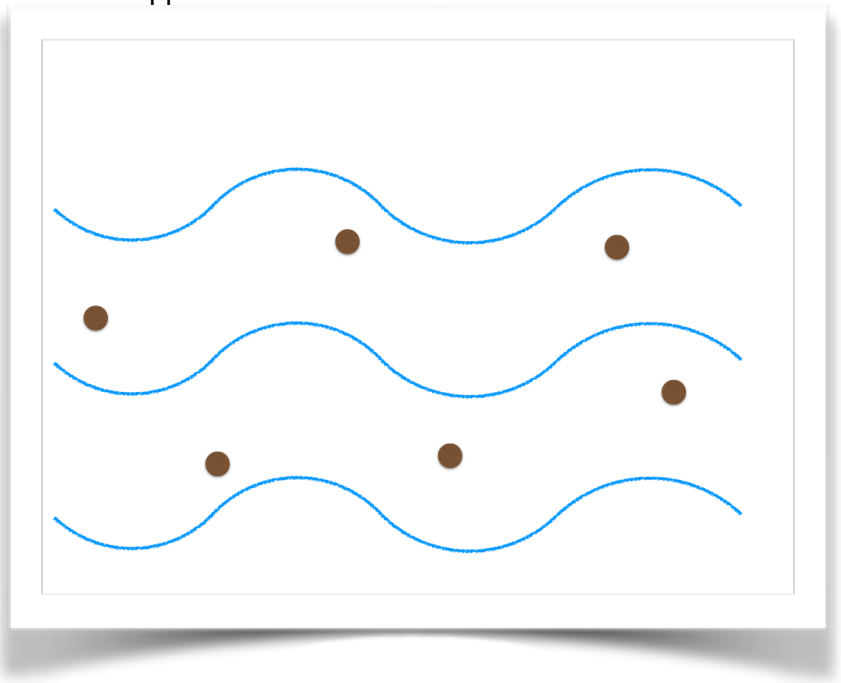
And now, let's look at systems & structures from a historical and scientific perspective.

We'll begin at the same beginning as the ancient story just told. Nature is a system that has been evolving and growing for millions of years.

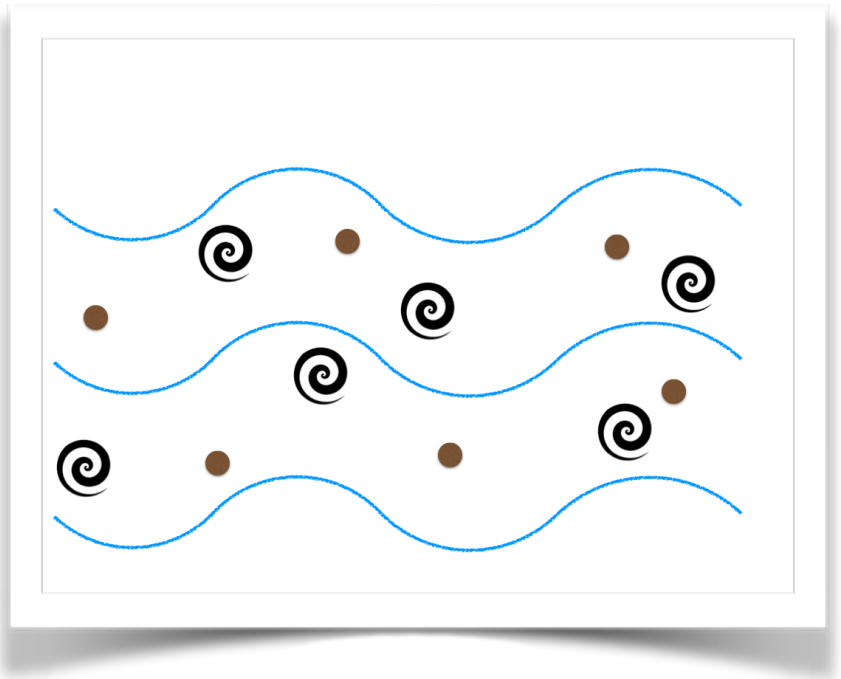
Long after the big bang, the land and the waters were formed.



Then the first forms of life appeared as amoeba and bacteria.

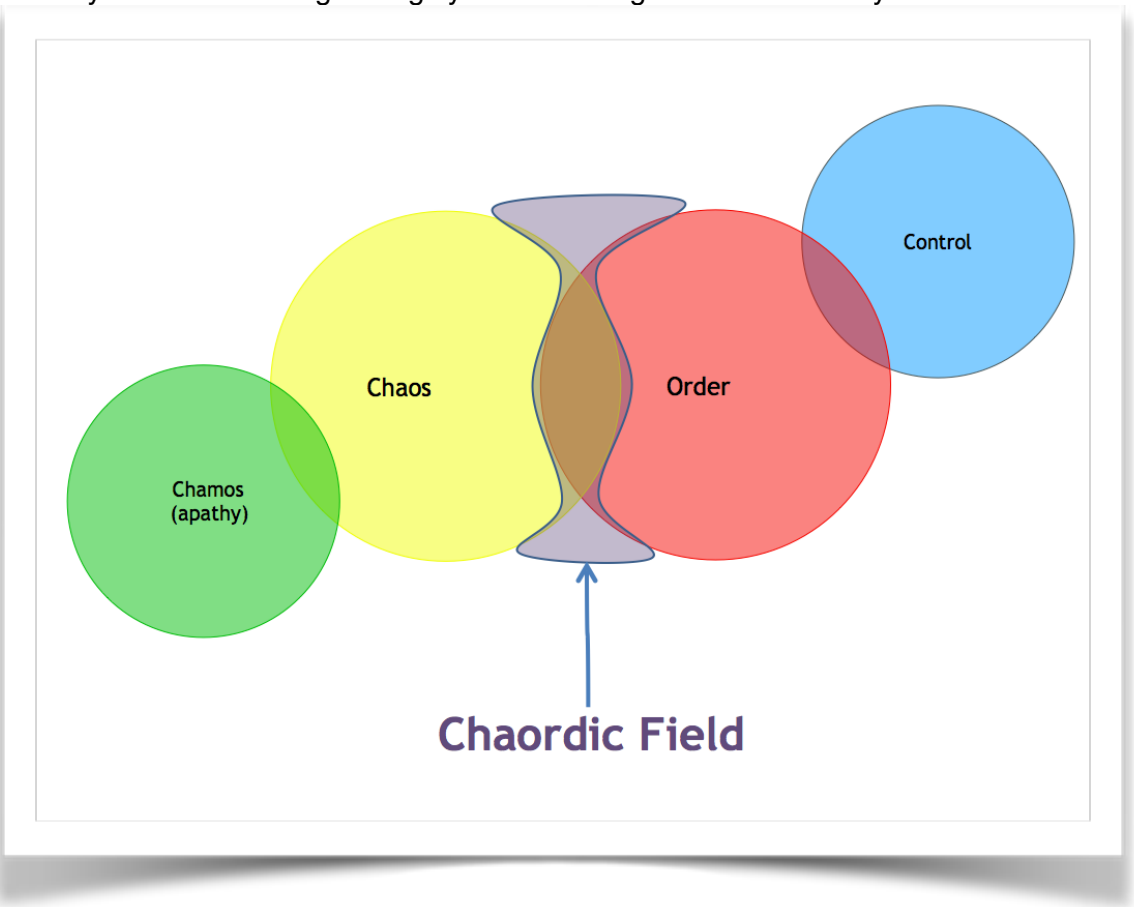


Over millions of years, more complex forms of life evolved.



Nature is a self-organizing, adaptive system, which basically means:
- it is decentralized — there is no central control
- higher-order functions emerge — the system evolves to more complex functionality.

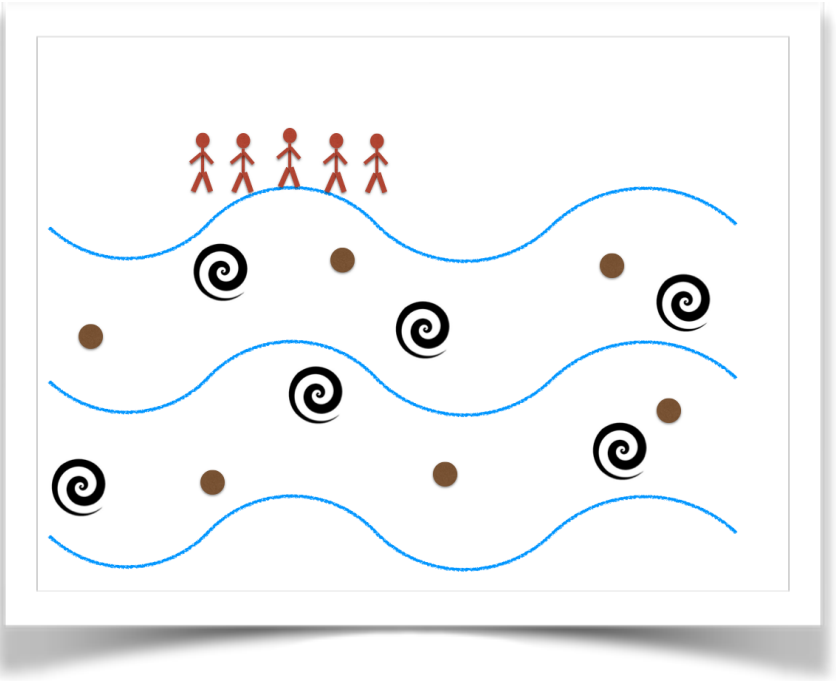
Another way to view a self-organizing system is through Chaordic Theory.



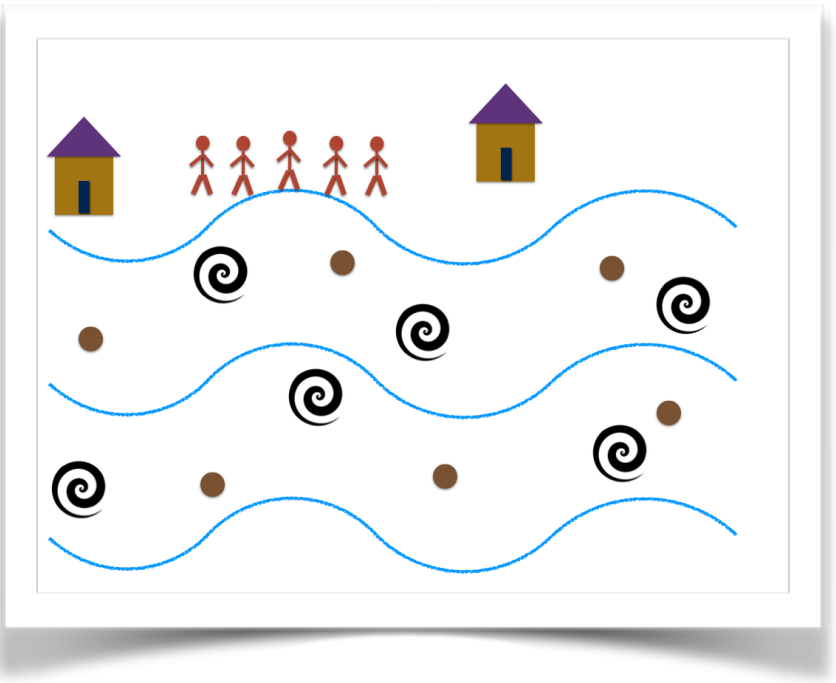
Briefly, the term, “Chaordic”, is formed by combining the words Chaos and Order. It’s where the chaos and the order overlap that you have creativity and innovation. When a system tends too much to order, it becomes control — it becomes rigid and you lose access to the creativity. When a system tends too much to chaos, it becomes chamos (which means apathy), and then you cannot get things done. Our ability to create order comes from the past. Our ideas about new possibilities come from the future, from the chaos. These ideas are the seeds lying in the dark ground.

Now, let’s continue with our historical review of systems & structures.

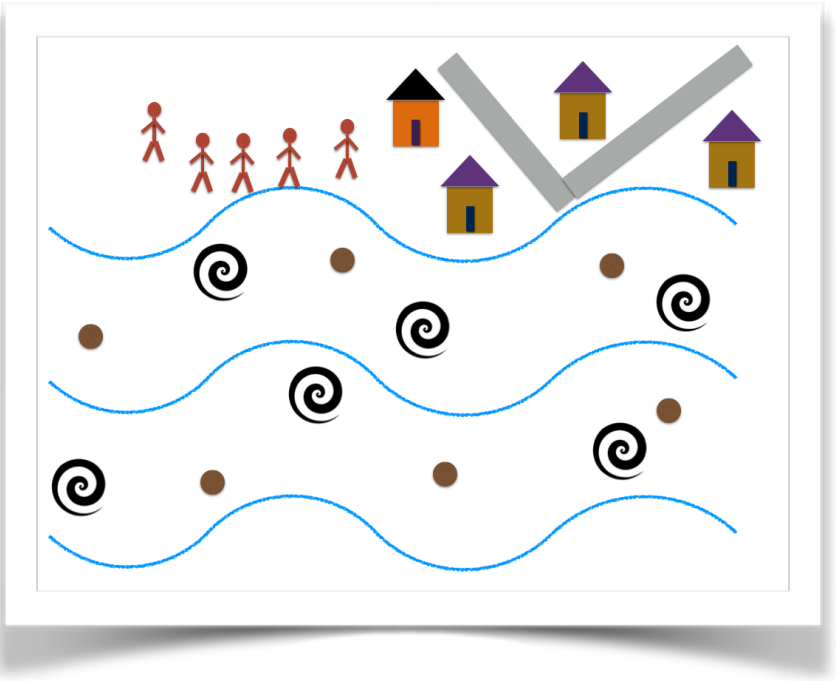
Humans appear — and they are part of the natural world. They are fully part of nature's self-organizing system.



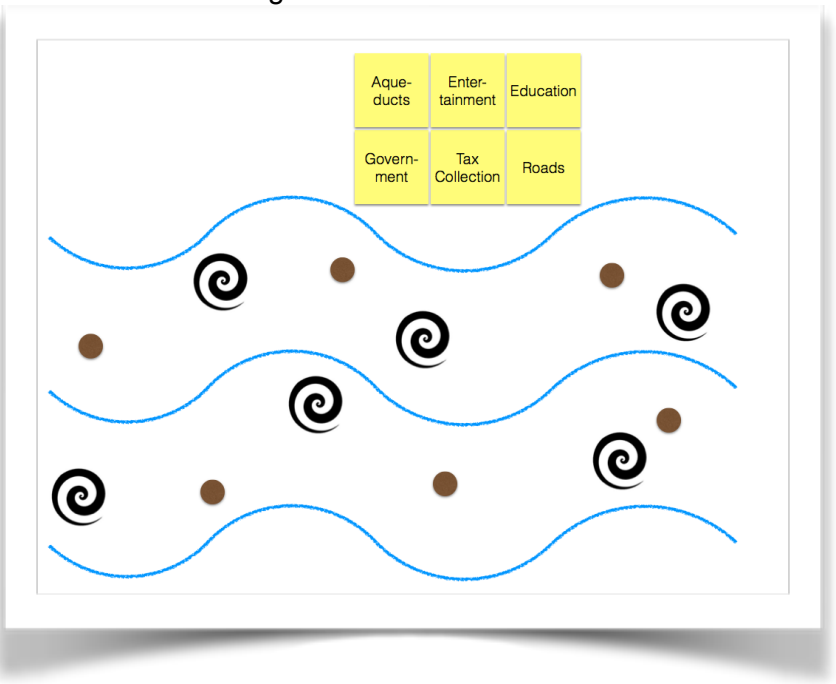
Next as Humans are seeking protection, they create simple structures, such as houses.



Next, Humans are specializing. They build towns and cities. They take on different roles, such as farmer. They build connections between the structures in the form of roads.

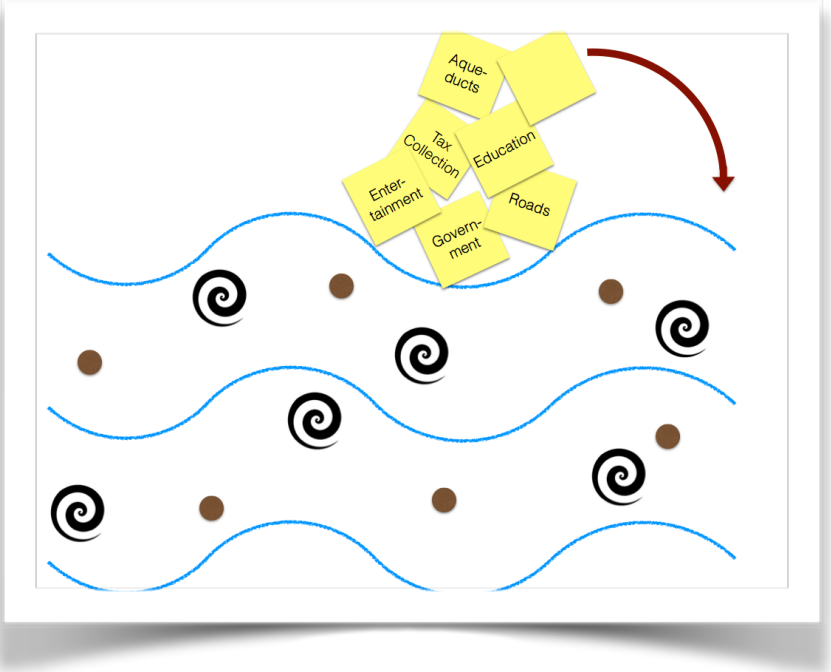


Next we see that Humans are building nation states.

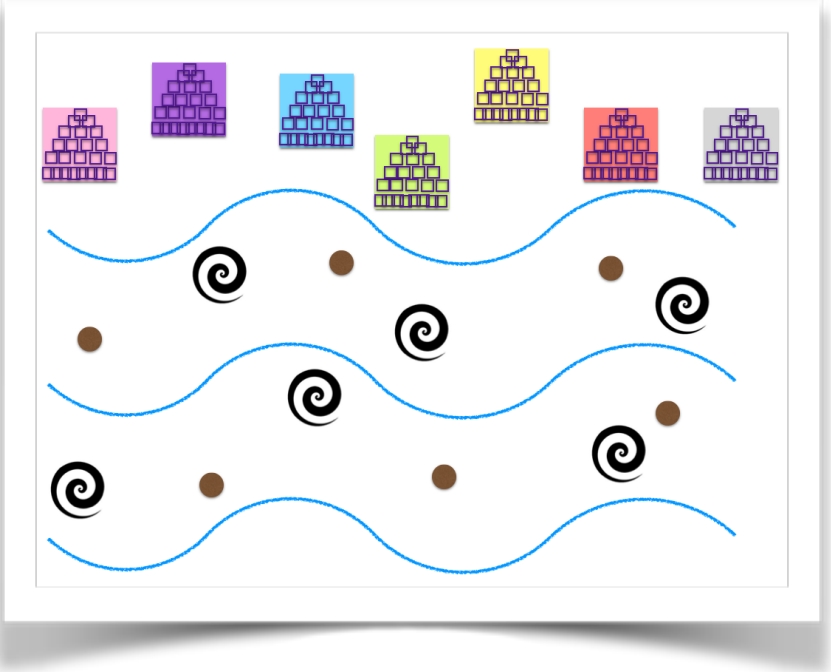


They build more and larger systems & structures — government, tax collection, roads, aqueducts, eduction, entertainment, etc.
I'm representing the human-made structures as 4-sided shapes. Squares represent reason, stability and order in Sacred Geometry. And 4 represents the human-made structures in Mayan numerology.

Then we see that Nation states collapse. This has repeated itself again and again throughout history. Is this caused by the break-down of the systems & structures? The Roman empire collapsed. The Mayan civilization collapsed. Etc.

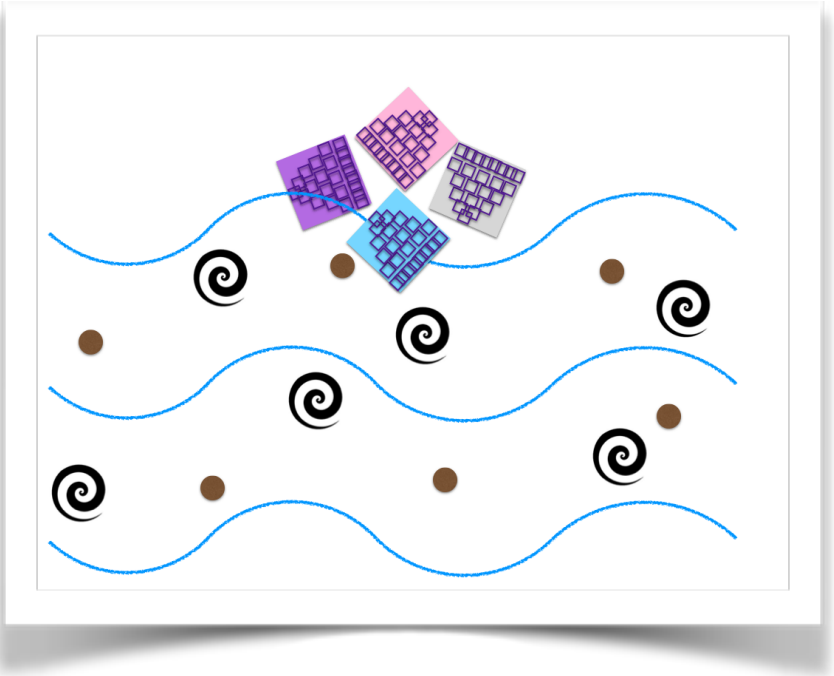


A similar pattern can be seen during the last couple of hundred years, with humans building corporations that appear and disappear.



The corporation is typically a command & control, hierarchical structure — someone is in charge at the top, while many people are doing the “work”. During the last hundred years, some corporations have become global. It is believed that we can become more productive with larger corporations because we can make use of ‘economies of scale’.

Corporations, as a side-effect of the work they do, have caused some major damage in the world.

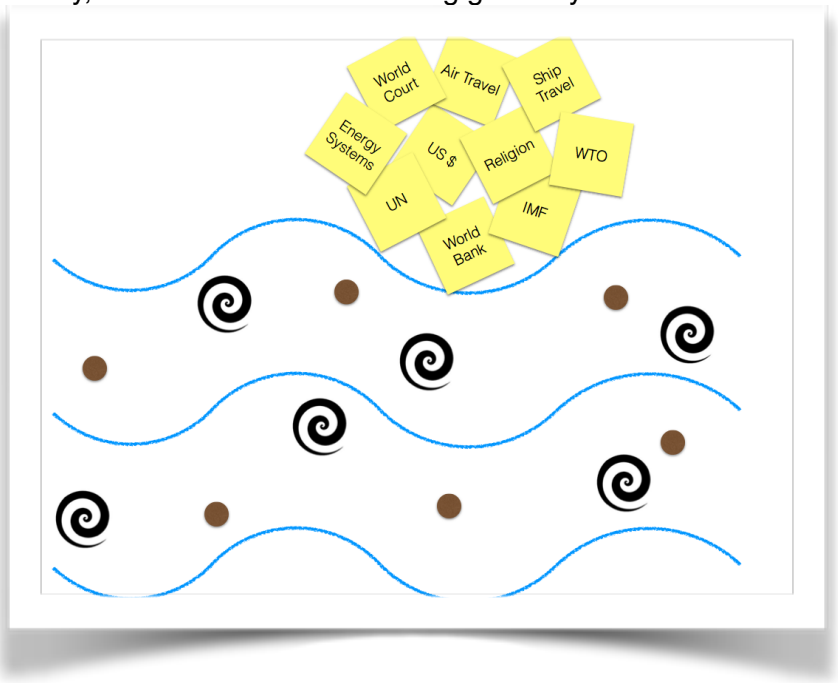


Examples of the damage that corporations have done:
- Enbridge - pipe line leaks
- BP - oil spill in Gulf of Mexico
- Exxon Valdez - oil spill from a ship on the west coast of Canada
- Fukushima - nuclear facility damaged by earthquake in Japan
- Chernobyl - nuclear reactor melt-down in the Ukraine
- Financial systems - the great depression and the recession of 2008.

I'm sure that you could add to this list. I believe that part of what we we are seeing is a disconnect between the corporation and the people on the land where the damage occurs.

As a system grows, is there a size at which a system becomes inherently dysfunctional?

During the last century, humans have been building global systems.



Some of these global systems are:
- World Court
- Energy Systems
- US $
- World Bank
- WTO
- Some religions
- IMF
- World Bank
- Air Travel
- Ship Travel

We can only speculate as to what will come next……..

As we can see, there are natural disasters and there are also human-made disasters. What is the difference between these? Is there a difference?

Organizations

I'm now going to focus on 4 of the traits that I see playing out in organizations.

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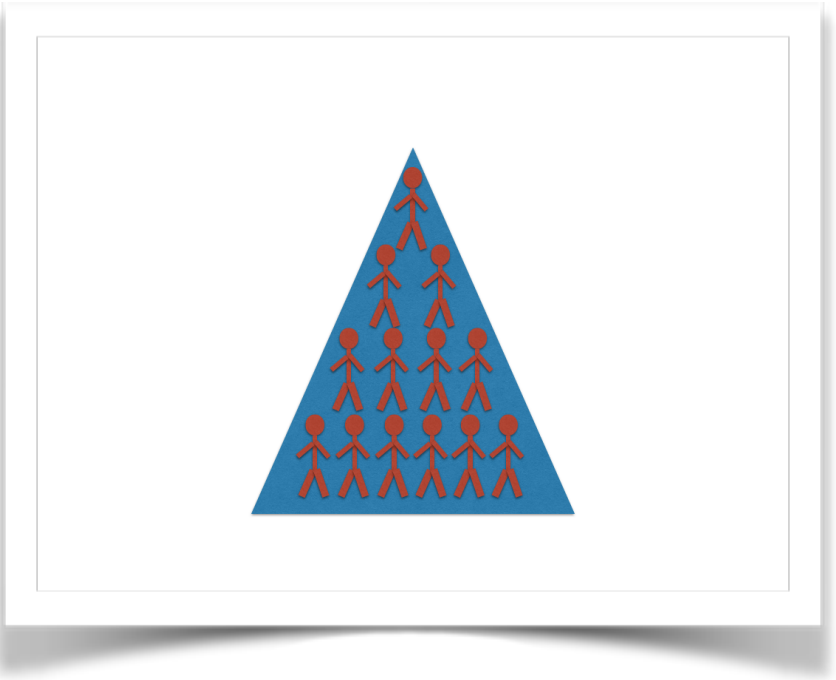
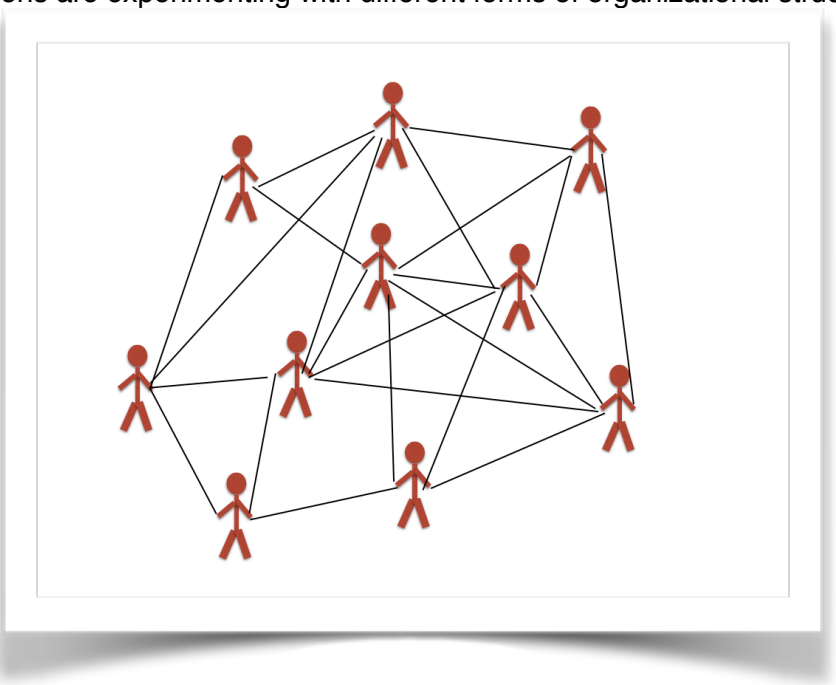
1. Brainpower

Organizations are typically set up with a command and control structure. A person, or a team of executives, is in charge.



This structure reduces the brains of the organization to 1 or 2 or 3 people. We become dependant. We receive instructions and we follow them……

Some organizations are experimenting with different forms of organizational structures.

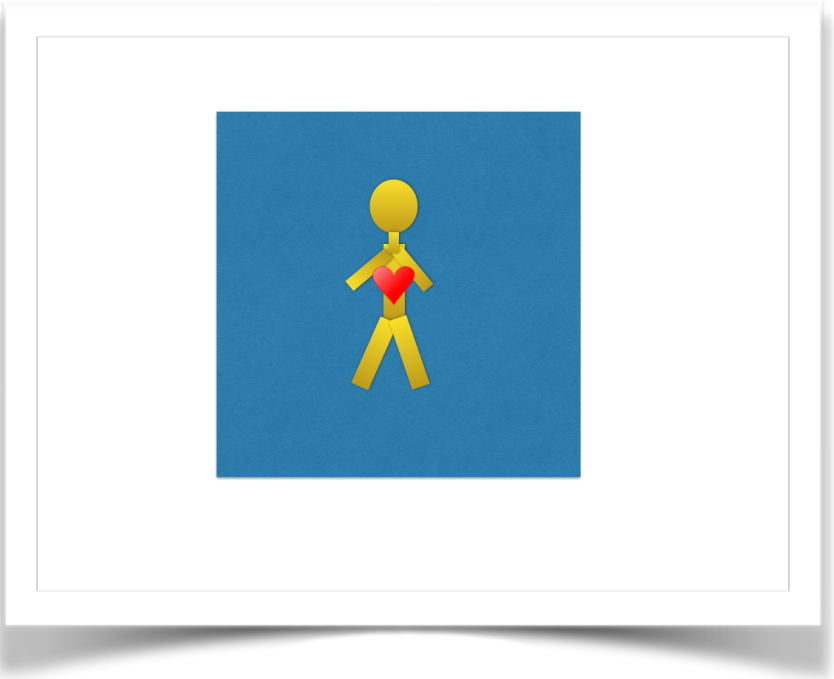


These are often some form of a networked structure, where all brains can be active. Everyone can contribute to decisions — making people tap into collective intelligence; they are working together as one entity; and they are operating from wholeness. For me, wholeness is a critical stance to addressing the disintegration of our world as opposed to seeing only the separation of the parts.

2. Purpose

Now I'll talk about purpose and begin with a quote from Toke Moller: "Purpose is the invisible leader. "

Many organizations know about the importance of having a clear purpose and other guiding ideas.



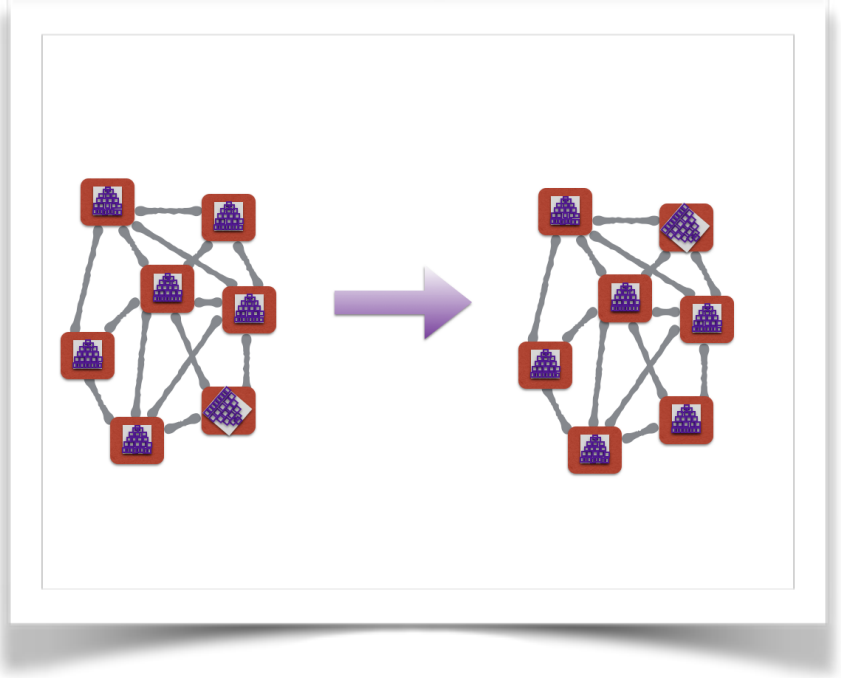
However, what we see happening in many command & control organizations is that they lose sight of their original purpose and the goal becomes about maintaining the organizational structure. The goal becomes about self-sustainment. We see this in governments, corporations, health institutions, charities, etc.

It's natural that this would occur. I know that I've done it when working for a large telecom company. I considered what the company would want. We all do this kind of thing. We don't want the system to collapse. We want the organization to continue so that we all have jobs. We do this for ourselves and we also do it for our colleagues. The survival instinct kicks in.

Ethics and morality lives inside of our human beings. It does NOT live in the systems & structures that we create! So if the organizational purpose becomes about sustainment of the organization, we can imagine what could happen. And we are seeing its effects all around us.

3. Systemic Change

Our systems usually develop problems of one sort or another. For example, a hospital's set of policies, may favour one group of people over another. When we see this occur. we may attempt to correct the problem — and then we see a different part of the system begin to malfunction.

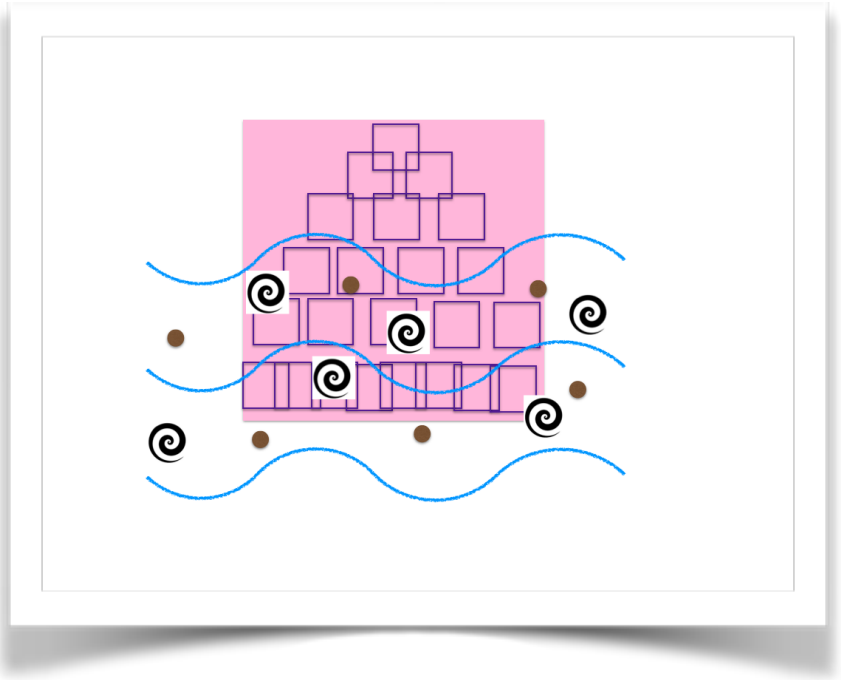


We all know about this kind of problem at some level. Some of us are more conscious about it than others. Because of this, we might resist making changes to a system. Or we might make the changes without a full analysis of the possible consequences. Regardless, we can end up feeling that we're back at square one.

With a self-organizing system, the structure is adaptive and will adjust itself around the changes made to the system. Whereas, with a command & control structure, an analysis may or may not shed light on the changes that are needed to get the desired effect, without unexpected consequences.

4. The Informal Organization

It is known that Command & Control organizational structures have an informal organization as well as the formal hierarchical organization. The informal organization is a self-organizing system.



I remember when I worked for the telecom company, I often knew to whom to go to get the job done.

When in such an organization, we operate from both the formal and the informal structures. However, we're more aware of the formal structure. The informal one is more unseen and unacknowledged, yet achieves results.

Possibilities

What's possible? Can we create self-organizing systems that work for the good of the world?

Models and theories about how to do this exist. Some are:
- Chaordic Theory - This theory, identified by Dee Hock in the 1970's, is a self-organizing system.
- Holacracy - This is an organizational model that keeps the purpose front and centre.
- Complexity Theory and Self-Organizing systems - There is math and science that supports us in our explorations and implementation of self-organizing systems.

We have examples of human-made self-organizing systems. The first application of chaordic theory was used for the creation of VISA International in 1975 - it is now much less chaordic that in the beginning. And we have the internet, which is self-organizing — sometimes for the greater good and sometimes for bad. Furthermore, self-organization, in the form the the informal organizational structure exists in most organizations. What I have noticed is that if we do not know about the concept of self-organizing, we cannot "see" it. We see all systems as being

based on a command & control structure. It's the lens from which we view all organizations. We think that it's necessary to have 1 person in charge. Our cultural beliefs are preventing us from seeing the self-organization that is often present.

For example, Thom Hartmann writes about a meadow with deer that biologists have studied. Twice a day, the deer select which 1 of 2 watering holes they will go to. This is an important choice so that the deer don't get thirsty and there may be predators at one of the watering holes. It was always assumed that the decision was made by the buck with the big antlers on top. Then the biologists decided to study the deer to determine how they make this decision. They saw that when it was getting close to the time to go to a watering hole, the deer would start to point to 1 of the 2 watering holes with their noses. When 51 percent of the deer pointed to the same watering hole, they would go to that watering hole. It's truly a democratic process!

Another cultural belief is that evolution was based on competition. This is attributed to Charles Darwin. However, if we take a closer look, we find that his book, "The Descent of Man", has only 2 references to "survival of the fittest" and 95 references to "love"! It was a disciple of Darwin who strengthened the competition story. There is now more understanding of the important role collaboration has played in evolution. Command & control organizations tend to be based more on competition, whereas self-organizing systems are more about collaboration.

Self-organizing, does not necessarily mean that a system operates from values that we would see as "good". Some terrorist groups operate as self-organizing systems! They are decentralized.

Self-organization requires trust. It requires that we let go of the need for predictability and that we accept uncertainty. Our cultural belief is that we're safer with command & control structures. We think that it provides us with greater predictability and greater certainty. But this is an illusion.

An example of people in a self-organizing system that found greater safety than others can be seen during the tsunami of 2004 that originated in Indonesia. Some people on the Andaman Islands in the Indian ocean simply went to higher ground before the tsunami hit. They had no fancy warning system - perhaps they simply heard the earth?
Animals did the same. — My assumption here is that they were part of the self-organizing natural world.

Here is another example of the strength of our need for predictability and certainty. Margaret Wheatley, an organizational consultant who speaks about self-organization, says that before "911" many organizations were experimenting with self-organization. But after "911" most organizations reverted back to command and control. My assumption is that the fear induced by "911" had this affect.

We usually try to build our human-made structures to be "fail-safe". We try to set them up so that they will not fail. Whereas some systems, usually self-organizing systems, are set up to be "safe-fail" systems. This means that we recognize that systems can fail. We can then see when it might be better to let a system fail. In our attempts to prevent a system from failing, we've set ourselves up for some major disasters. We're not using the precautionary principle.

Self-Organizing systems are more resilient. They are adaptive. They can change as the world around them changes. An example of a self-organizing system that self-corrected is the ecosystem of Yellowstone Park. When the wolves were reintroduced to the park, it took only a few years for the ecosystem to rebalance. The deer were kept in check, which resulted in healthier grass and other plants. Many birds and other animals became healthier. Even the rivers became healthier.

Closing

As we've seen, many examples of self-organizing systems exist, from VISA International to Zappos, a clothing manufacturer, which is converting to Holacracy, to a growing web of alternate currencies, and, of course, to the Internet! Could it be that the web of alternate currencies is the beginning of the formation of a new financial system?

We, both as individuals and as collectives, need to be continually changing and adapting to the environment. Nature does not sit still. Our systems & structures are always changing. Constant movement is the norm in both the natural world and also in our human-made world. Yet, we are often trying to find a stable state for our systems. This leads to a contradiction that makes our systems & structures more unstable. In other words, our attempts to make our systems stable and unchanging, seems to come with the belief that our systems will not fail, which, as we've seen, cannot be true. Yet, paradoxically, at the level of the individual, we all seek that place of stillness within. It's only from that place that we can be fully present to deeply listen to others, to be open to change and to be open to the trust required for self-organizing.

This brings us back to the opening. Systems & structures hold our cultural beliefs. And if we want our systems & structures to reflect our deeper purposes, we must have self-organizing systems. Only such systems have the capacity to reflect our deeper values and importantly enable us to freely collaborate, thus giving rise to collective intelligence.