



## Experiencing Complex Systems

*This document is designed to supplement seminars that engage improvised play, meditative practice or oriental bodywork practices as mediums for understanding our world. I would like to open my writings here with some statements that may (or may not) seem radical and then go on to explain them throughout the document.*

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*Science is also story, it builds metaphorical understandings of the world*

*Too much order can be a sign of danger, resilient systems need some chaos*

*You can see the whole universe in a grain of sand if you know how to look*

*Your body is a rich and insightful source of knowledge and you can involve it in decision making*

## True Stories

Let us begin with the notion of science as story. Scientific discoveries and methodologies have revolutionised our world in the most incredible, useful and inspiring ways. The ways of seeing the world that traditional scientists have used have become powerful metaphors that we have adopted into our ways of living and understanding the world. However, as I hope the following descriptions indicate, these ways of understanding are limited and can't always help us to fully understand the vibrant, complex evolving world we live in on their own.

I owe a debt of gratitude to Fritjof Capra for the following paragraph. Although others have written about the history of these ideas, it is from the description within his book *The Turning Point*<sup>1</sup> that I have derived the following very condensed synopsis:

Before the year 1500, humans had what could be described as an organic worldview. People experienced nature in terms of organic relationships, which Capra describes as “characterised by the interdependence of spiritual and material phenomena.”<sup>2</sup> However, during the sixteenth and seventeenth centuries a more ‘mechanistic’ worldview started to arise. Nicolas Copernicus and Galileo Galilei deconstructed the myth that the Earth is at the centre of the universe, which challenged religious views of the time. Galileo further started to define the universe as operating according to laws that can be defined mathematically, and this led him to restrict scientific study to what was measurable and quantifiable, discounting all *qualities*. During the same era as Galileo, Francis Bacon formulated an empirical method of scientific investigation, underscored by the belief that nature could be dominated and controlled. René Descartes, influential philosopher and mathematician also sought to define the world mathematically and conceived of the world as split into the two separate realms of mind and matter. Descartes philosophies are the origin of the mind/body split that has influenced our thinking ever since, where the body is seen as machine-like matter and the mind a separate entity. Isaac Newton then blended the empirical methods of Bacon with the rational approach of Descartes. He generated a view that all matter is made of particles and that physical phenomena can be “reduced to the motion of particles caused by their mutual attraction, that is, by the force of gravity.”<sup>3</sup> Newton described the action of these forces mathematically in his laws of motion, and all matter came to be thought of as governed by this set of universal laws. During the eighteenth

<sup>1</sup> Capra, 1982, p37-62

<sup>2</sup> Capra, 1982, p37

<sup>3</sup> Capra, 1982, p52

and nineteenth centuries, science expanded greatly upon, but was still primarily based on Newtonian mechanics. However, in the nineteenth century some discoveries started to challenge Newton's laws as all encompassing. Michael Faraday and Clerk Maxwell began to work towards understanding a 'new' force other than gravity, that of electromagnetism. Theories started to arise around the concept of evolution, the most prominent of which was laid out in great detail by Charles Darwin. The concept of evolution challenged the world-as-machine view somewhat, as suddenly the machine could evolve and change. However, the greatest challenges to Cartesian and Newtonian views were to come within the early the twentieth century. They were Albert Einstein's theory of relativity and discoveries in the field of quantum mechanics that did not follow the laws of Newtonian mechanics.

Despite relativity theory and quantum mechanics (which generally cannot be understood by the lay person anyway), this history led to the rise of a broadly held worldview that incorporates the following key beliefs:

- The world can be understood as a machine
- The mind is separate from the body
- Nature can be controlled and manipulated by humans

Do these beliefs sound as dangerous to you as they do to me? Even if we intuitively understand that these statements are not true, we often still live our lives as if they were. **We go about our days using mechanistic logic and disembodied methodologies to try and control our world.** This has become so engrained into our approach to problem solving and decision making and living in general that we often don't even see the beliefs that we are operating from. This mindset is often called the 'reductionist mindset', or 'Newtonian thinking' or the 'mechanistic mindset'. Poor old Newton, it is a bit unfair to blame *him* when people allow his theories to shape the whole way they see the world. As Professor Paul Davies rightly pointed out "it is important to draw a distinction between reductionism as a *method* and reductionism as an *ontology* - as a theory of [how] the world [is]<sup>4</sup>. Reductionist *methodologies* lead to many remarkable and valuable scientific discoveries, and they certainly can have a place within a healthy worldview.

Actually, the vast majority of phenomena on this planet cannot be fully described using what are called 'linear equations' such as those of Newtonian mechanics<sup>5</sup>. However, even scientists and mathematicians have been presented with information throughout their education that may lead them to forget this fact. Linear equations (those that can be understood using so-called linear logic) have been more widely discussed and taught because they can be used to predict behaviour with relative certainty, by this we mean that they can be 'solved'. However, they primarily describe 'dead' systems such as falling rocks, tensile strength of bridges, the mechanics of how to get an aeroplane off the ground etc. (if you believe Henri Bortoff<sup>6</sup>, then any such 'downstream' descriptions are only capable of describing what is already dead, refer to Henri's book *The Wholeness of Nature* to fully appreciate his perspective). Such understandings are useful, and exceedingly clever, but not able to describe a living system in its full and rich complexity. In living systems, it seems that predictability is an illusion. Non-linear equations crop up all the time when mathematicians try to describe living systems. Non-linear equations describe relationships that are not strictly proportional<sup>7</sup> and in the words of James Gleick, "Nonlinearity means that the act of playing the game has a way of changing the rules"<sup>8</sup>. These systems are constantly changing and evolving and as the agents in the system interact they change the system in the process. When Gleick wrote his book 'Chaos' in 1987, the only equations that made it into the textbooks were 'solvable' ones, if non-linear mathematics appeared (and it frequently did) often the equation was adapted to an approximate linear substitution, or the equation was not published as it had not been 'solved'. Therefore, those studying mathematics tended to forget that the linear equations so predominant in their textbooks are actually a rare form of equation when describing natural phenomena, and one which virtually always only describes discrete aspects of the phenomenon, not it's behaviour as an integrated whole. Thus, the mechanistic mindset held sway....

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<sup>4</sup> Paul Davies, Professor of Mathematics at Adelaide University, in an interview on Radio National, 1995, <http://www.abc.net.au/m/latenightlive/stories/2010/3068036.htm>

<sup>5</sup> Gleick, 1987, p68

<sup>6</sup> Henri has taught physics and the philosophy of science for most of his career. He is the author of *The Wholeness of Nature* (1996), a definitive monograph on Goethe's scientific method. Goethean science offers a more phenomenological approach to scientific enquiry. More on Goethe later in the document.....

<sup>7</sup> Gleick, 1987, p23

<sup>8</sup> Gleick, 1987, p24

# Seeing the Universe in a Grain of Sand

If most of the world cannot be described by scientific formulae where the parts quite simply add up to give the whole, then how can we understand wholeness? How can we learn to live our lives and make our decisions holistically? The mathematics of complexity and chaos cannot be used to make definitive predictions. You cannot 'solve' the equations in the same way that you can linear equations when you put in new variables. To understand living systems we need to engage other ways of knowing as well as linear logic. Luckily, as has been reported in eastern philosophy for centuries, each part will reflect the whole if we know how to see it. In Chinese medicine for example, diagnostic methods such as pulse diagnosis and tongue diagnosis *rely on* being able to see the whole through a part.



## Goethean Science

Johann Wolfgang von Goethe developed a methodology in the eighteenth century for being able to sense the 'whole' of a phenomenon as it manifests in its parts. Whilst Goethe is generally best known for his literary works, he was also a visionary phenomenological scientist, and developed a methodology for scientific observation that contemporary Goethean scientist Craig Holdredge (of the Nature Institute in the USA) describes as "science as a conversation".<sup>9</sup>

The methodology that Craig Holdredge uses to practice 'Goethean science' I would describe as consisting of three main steps:

1. Direct experience of the being, living system or phenomenon in question. Experiencing the phenomenon with all senses from as many 'angles' as possible.
2. Piecing your understanding of the phenomenon together in your mind after you have left it, in as much detail as possible, rebuilding all the nuances you have gathered through *all* your senses. Goethe called this 'exact sensorial imagination' Holdredge calls it 'exact picture building' or 're-remembering' the phenomenon.
3. As you engage in the first two steps persistently, with an appropriate frame of mind, at some stage an intuitive understanding of the whole may present itself to you. You may then begin to see the *ur-phenomenon*, or the underlying qualities that form the whole of the phenomenon (which are present all its diverse parts).

In practicing this type of methodology with a plant, Holdredge describes:

As the process of knowing unfolds—the conversation with the plant—you begin to see the unity of the plant. The remarkable thing is that when you build exact pictures over and over, moving from one characteristic to the next, patterns emerge. You begin to recognize how the characteristics express a whole—the unity begins to reveal itself. When you go back to characteristics you have studied before, they may suddenly express the unity you have discovered through another part. You have an "aha" experience in which you recognize connections between what previously appeared to be separate facts.<sup>10</sup>

One important realization in learning to see wholeness from a Goethean perspective is that ***the whole is not a thing***. When studying plants, Goethe referred to the 'whole' of a plant as the *urpflanze*. I have translated this term as meaning 'all-plant', and it refers to the fundamental nature of the plant. This is a difficult concept to put into words, other descriptions could include the 'essence', 'underlying impetus', 'deepest intention', 'all encompassing way of being', or 'archetype' of the plant. If we can perceive the *urpflanze*, then we will understand the plant as a living being, and will see its wholeness (or unity) reflected in all of its parts. We will not see its wholeness as a *thing*; the *urpflanze*

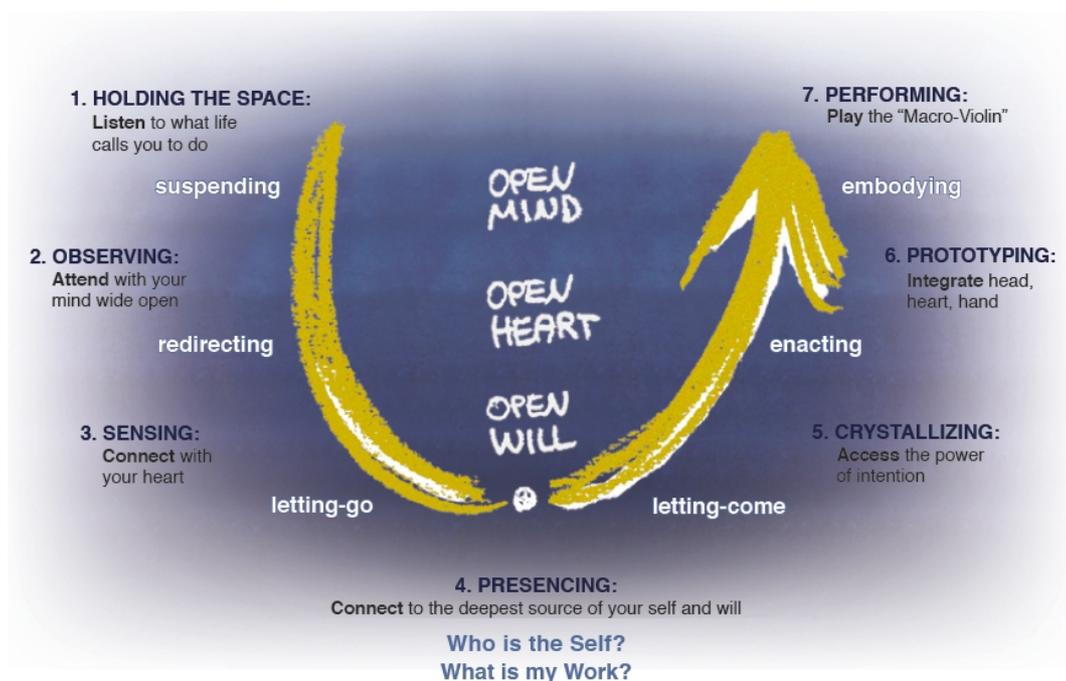
<sup>9</sup> Holdredge, 2005, p27

<sup>10</sup> Holdredge, 2005, p45

(or *ur-phenomenon* of anything we can perceive) is not an object. It is the **sense of wholeness** that lies beyond (yet also within) the object (the part). The same entity may react completely differently in different contexts, manifesting different characteristics but it will always react in a way that is true to its fundamental nature, that is following the spirit of 'who it is', and that reflects the *ur-phenomenon*.

## Theory U

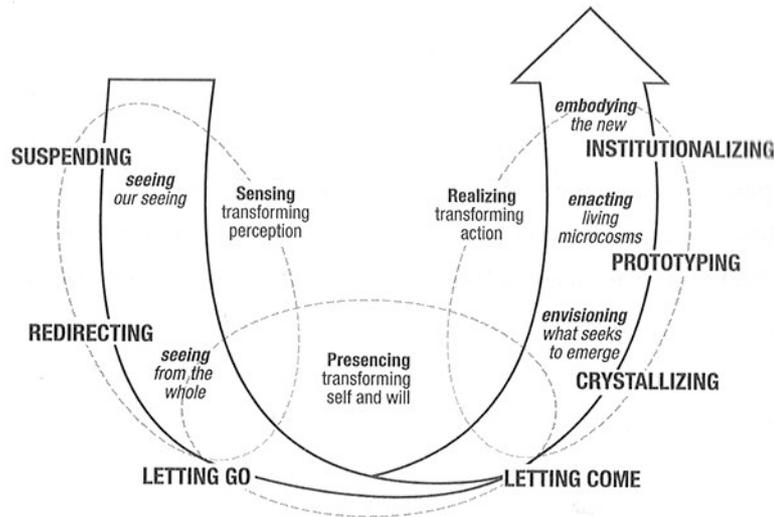
I see Goethe's methodology as useful to understand what is happening in the world around us, but Theory U as taking us further towards understanding our place in this world and how to respond to it and evolve with it. Otto C. Scharmer developed this methodology, further described as "The Social Technology of Presencing"<sup>11</sup>. This methodology can also help us engage our different ways of knowing and understand how to work with the complexity of the world around us. Following are two diagrams outlining the U process.



*Figure 4. A New Social Technology with Seven Leadership Capacities:* The ability to move through a U process as a team, an organization, or a system requires a new social technology, presencing, an inner journey and intimate connection that helps to bring forth the world anew.

Source: *The downloadable executive summary of C. Otto Scharmer's book 'Theory U, Leading from the Future as it Emerges'* (<http://www.ottoscharmer.com/publications/summaries.php>)

<sup>11</sup>see <http://www.presencing.com/theoryu> for a description of Scharmer's Book



### Seven Capacities of the U Movement

The entire U movement arises from seven core capacities and the activities they enable. Each capacity is a gateway to the next activity—the capacity for suspending enables seeing our seeing, and the capacity for prototyping enables enacting living microcosms—but only as all seven capacities are developed is the movement through the entire process possible.

Source: *Presence*, Peter Senge et al, p219

I have included two representations of the U movement as they are both slightly different.... and this brings a smile to my face! This is not a rigid theory or methodology to be followed blindly, it alludes to a process of engaging and responding directly to the world whilst staying connected to a greater whole, and I believe that people have to make it their own. In support of this, Joseph Jaworski, one of the contributors to the book *Presence* describes:

Clearly people relate to the U theory in different ways. Some appreciate the distinct capacities in moving down and then up the U. Others just seem to grasp the whole of it and aren't really interested in the different capacities and aspects. Others respond to the idea of seeing with the heart and opening up to something beyond yourself, and to spontaneous action in support of the whole.<sup>12</sup>

Jaworski has also introduced spontaneity as an element of this process, and I believe that this is a critical element. When an activity is intentionally improvisational and invites spontaneity, I believe this can create an increased potential for dropping assumptions (the 'suspension described in the first step of the U), and hence for creating the conditions that allow the other capacities to follow. The 'redirecting' capacity that comes next is about being able to behold the situation in a different way, to be able to see beyond the literal manifestation to the generative intentions at play behind them. Henri Bortoft speaks about being able to perceive the 'coming into being' of the phenomenon we are observing (he also describes this way of engaging in the world as being 'upstream' – and I use this terminology again later). So, if an activity is intentionally improvisational I believe that greater possibility is created for people to drop their normal ways of seeing and truly engage with what is happening around them in very direct ways. However, one can improvise without dropping assumptions or assuming a different quality of attention to the 'normal' linear and rational thought processes. I see this as the difference between 'acting' (as in an actor) and allowing your responses to emerge. When you are 'acting', you are directing your actions in accordance with pre-conceived ideas. In this case, you have not managed to successfully suspend your assumptions and there may be a forced quality about your response. If you can successfully suspend your assumptions, and see in a different way, then you can allow a truly spontaneous response to arise within you. **This will not feel like acting, it will feel like 'being moved to act'.** When we

<sup>12</sup> Senge, 2004, p218

are 'being moved to act' then we are allowing the 'letting come' capacity to arise. In an improvisational art, we manifest that through whatever medium we are playing in, be it movement, voice, paint, story... and thus we move into the 'realising' phase of the U movement. If it is a transformative experience, it will take us all the way into institutionalization, where we have allowed the experience to change our underlying assumptions, worldview, or patterns of behaviour.

To live in harmony on our complex living planet, we need to learn to stay with what is happening and respond in realtime to whatever we are working with. It is not that intellectual thinking removed from our actions is not useful, but we need to be blending all our ways of knowing to live to our full potential. We need to know how to be present at the point of *coming into being* of each moment in our lives (and see all the possibilities contained therein), as well as how to use abstracted reflective thinking. If we only engage with a phenomena once it has 'come into being' then we may assess it and decide how we will respond in the future based on what we see, but we have missed a large part of the learning of the experience. The happening is over, the creation has happened - we are no longer operating in the domain of verbs, we are in the domain of nouns. It is useful to explore both the generative forces **and** the generated pattern to fully understand the phenomena. The next time probably won't be quite like this one if we are dealing with a living system or a social system, because in complex systems patterns emerge that are similar but never exactly repeating. *Getting a sense of emergent pattern in living systems requires us to engage 'live' where we can work in the thick of the creative chaos.* In this way, we can also learn to truly work collaboratively to create the future (with **all** the other living beings around us). Realistically, I believe that this is how natural evolution has always occurred on this planet.<sup>13</sup>

At this point I am interested in introducing the idea of complexity. It is one thing to engage in goethean practices on your own, it is another altogether to be able to pan back and see the broader context of what this means in our complex ecosystems and social systems. Many scientists have made it their life's work to better understand complex systems and I would like to share some of their insights with you and go on to include some embodied group practices to explore these concepts in playful ways 'live'.

Since this is an inherently unpredictable way to work, it requires a great leap of faith. And I am taking a leap of faith in introducing it into my seminars. In the time we have available, it is possible that as we engage in group improvisational activities that we won't get a sense of what I am writing about. As we will see when we look at patterns in ant colonies below, sometimes a pattern does not emerge, as certain conditions need to be met for pattern to emerge. In the case of human interactions, the variable elements are much richer and more complex than those of ant colonies, there are a myriad of different responses we may engage in as we improvise together. *I encourage you to think of these scientific models as alternative metaphors to those of mechanistic science.* You may allow them to help you take a different approach to your actions in the world. I have witnessed repeatedly breathtaking and beautiful synergies arise in the kind of spontaneous play we will engage in, but they don't always. Further, this is the kind of approach that one has to adopt as a life practice. *It can take practice to be able to sense emergent properties as they are emerging* and this may not happen within one session. But then again, it may.....

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<sup>13</sup>You could refer also to Lyn Margulis' work for more on how symbiosis can be seen as a major evolutionary force. See: Margulis, 1997

# Life at the Edge of Chaos



Image: www.starkeffects.com

Let us assume that we want to adopt a richer mindset than the mechanistic one described in the first part of this paper. Where can we look for credible scientific methodologies to enrich our ways of seeing the world? Most of them dwell under the banner of complex systems science. Chaos theory and complexity theory are two examples. An unidentified physicist has been quoted as saying that “Relativity eliminated the Newtonian illusion of absolute space and time; quantum theory eliminated the Newtonian dream of a controllable measurement process; and chaos theory eliminates the Laplacian fantasy of deterministic predictability.”<sup>14</sup>

The complexity sciences work with non-linear processes and natural / living processes are generally non-linear. Chaos theory seeks to describe complex systems such as weather patterns, ocean turbulences, wildlife population dynamics, oscillations in the patterns of the heartbeat, the brain etc. The mathematics behind chaos theory maps out all the possible solutions that a system can take, and often a pattern will be seen in the set of solutions generated. This kind of pattern is not visible to the everyday observer. These types of systems are very sensitive to the initial conditions, make a small change in the initial conditions of the system and it can take a radically different path from that it would have taken otherwise (this sensitivity has come to be known as *the butterfly effect*). This sensitivity is one of the hallmarks of a chaotic system (or a system in a chaotic state).

On the other hand, complexity theory can be used to describe order that *is* visible to the everyday observer, such as the patterns of ant movements in colonies. These systems are not so sensitive to initial conditions, but more sensitive to the nature of their components and their ways of interacting, change one simple rule of conduct and the whole pattern can rearrange. Of course *these theories do not describe living systems in their full complexity and richness either, but we can look at them as two alternative metaphors for understanding living systems*. They also have extremely useful scientific applications.

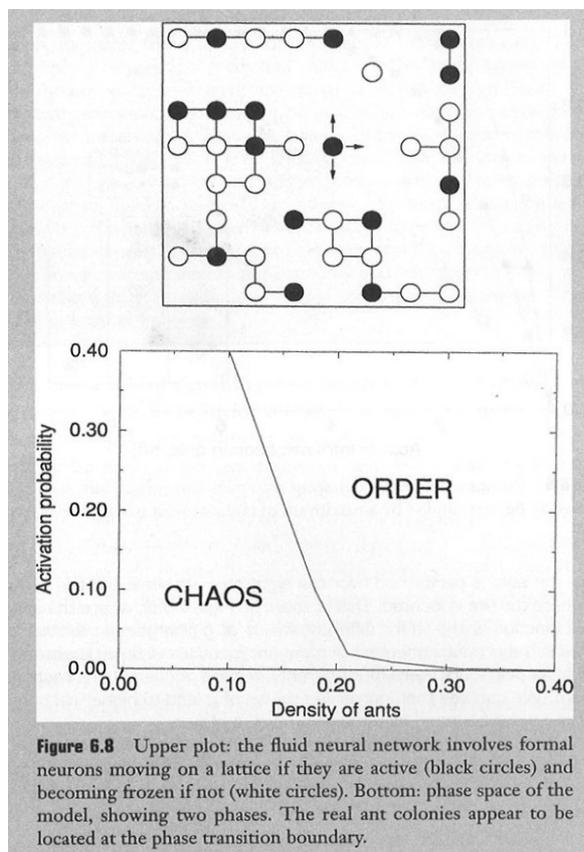
In the systems these theories describe, there is some ‘chaotic’ behaviour involved but it is not completely random; there are some restrictions around how the elements in the system can behave. There will be some defining ‘rules’ within which there are limitless possible interactions. This is called ‘deterministic chaos’. From deterministic chaos the most miraculous order often arises spontaneously. However, the nature of this order (or often even whether it will arise) is unpredictable before the elements start to interact. Therefore, *it is called an ‘emergent property’ of the system, it emerges only as the parts interact* (for example where did the taste of sweetness come from in sugar? The elements themselves that combine to create sugar give no indication of sweetness; this is a very simple example of an emergent property). *The mathematics behind these systems does not contain any ‘solvable’ equations, but rather there are simple mathematical formulae that are iterated to produce the pattern*. Generally you have to actually ‘run the system’ to find out what the pattern is, you can’t predict it beforehand.

So, let’s take a concrete example of such a complex interactive system, namely that of an ant colony.....

The dynamics of ant colonies have been studied in some detail, and Ricard Solé and Brian Goodwin write about this in their book “Signs of Life”. It has been observed that individual ants do not follow regular patterns of activity, one ant on its own behaves chaotically, roaming around seemingly at random, sometimes active, sometimes dormant. However, within a colony, the ants as a group show clearly defined rhythms of activity. It seems that with some simple ‘rules’ of activity, ants can develop synchronised overall behaviour. *Can – but don’t always*. In such colonies, ants are not active all the time; they become active either through contact with another active ant or spontaneously with some small probability of activation. Whether order will arise or not depends on how well the conditions support the interactions of ants. Therefore, order arises at a certain density, occurring when the ants come into contact with each other with sufficient frequency. As the colonies reach such densities, rhythmical patterns of activity can be observed, where sometimes all the ants will be stationary and sometimes all will be moving. To explore this phenomenon further, computer modelling has been used where virtual ants were allowed to move over a grid (they are described in the following figure as ‘neurons’ as the virtual ants in this model are behaving like standard model neurons except that

<sup>14</sup> Gleick 1987, p6 \*note: Laplace was an eighteenth century philosopher/mathematician who embraced the Newtonian worldview ardently

they can move over the grid as well as become activated). The following graph shows clearly how order arises quite suddenly when a certain density is reached in this virtual simulation. This is very similar to what happens in the real colonies. Order of this nature that arises from simple interactions of multiple elements has been described by Stuart Kauffman as 'order for free', as it arises *spontaneously* once a few very simple 'rules of engagement' are established.<sup>15</sup>



Taken from: Goodwin and Solé, "Signs of Life", 2000, p161

Some consistent features of complex systems noted by Reason and Goodwin<sup>16</sup> are:

1. they consist of rich interconnections between the interacting elements;
2. the interacting elements iterate certain behaviours to give rise to coherent order;
3. the systems have 'emergent' properties/patterns that are not predictable before the elements start to interact;
4. they are holistic in the sense that the emergent order is created by all the parts rather than dictated by any privileged part or set of parts, in this way emergent order can be created by almost any combination of the parts and there is no external 'set of instructions';
5. in their chaotic state they exhibit distinctive patterns in the fluctuations of their variables;
6. the most resilient and efficient patterns emerge at the 'edge of chaos' – that is when the balance between order and freedom is just right, which tends to happen at the point just beyond where order starts to arise from the chaos (for the ants, this is at a density *just after* rhythmical patterns appear).

At this point I would like to reiterate that it is important to recognise that all theories (scientific or not) are crude descriptions of living reality. I urge you dear reader, don't mistake the map for the territory. *All* theories are metaphors of reality. They are all stories and all have their limitations, and they only describe discrete parts of reality. In fact, they only describe discrete *snapshots* of reality, as reality also continually evolves. The computer model of ant interactions is a very crude approximation of how ants behave; it doesn't account for what they do in all aspects of their being, and we can't be sure it is what ants will evolve to do in the future. Such theories can help guide us in understanding the world, but if we base our entire understanding on the model and not the territory then we are limiting our wisdom severely. To understand the territory we need to engage directly with it. In support of this I'd like to quote Manfred

<sup>15</sup> There is a whole chapter in Kauffman's book 'At Home in the Universe' titled 'Order for Free'. This book is well worth reading for anyone interested in complexity dynamics as Kaufman is such a clear and concise communicator, and makes such concepts accessible to people without a scientific background.

<sup>16</sup> Reason & Goodwin, 1999. \*Note that these 6 points are very condensed 'dot point' versions of what was in the original article

Max-Neef: in a lecture that I attended at Schumacher College he said that “we can only truly understand that of which we become a part”. If we accept this premise then we should be engaging in more participatory and experiential methodologies for gaining knowledge. I see such attitudes to knowledge expressed in ‘action research’ methodologies<sup>17</sup>, in ‘peer to peer’ processes<sup>18</sup> (such as that which created the linux operating system), and community driven initiatives like the ‘Transition Town’ movement<sup>19</sup>. In these methodologies we learn by participating, but to be able to learn in an experiential way (and really, fully become a part of something in the fullest sense), we need to use all our senses and sensitivities as we participate, this has a different quality to it than participating from the mechanistic mindset and requires us to fall back on our skills in direct perception and to stay connected to what is going on around us.

Building from the features of complex systems described above, and blending in the InterPlay body wisdom tools<sup>20</sup>... What kind of practices might be useful to us as we participate in a self-organising world?

**1. Develop a sense of what is called in InterPlay ‘easy focus’**

*This is the ability to have a peripheral focus and stay connected to a broader sense of the whole in light and playful ways. Complexity lives outside of logic alone and linear process, it requires a different type of focus to appreciate it. Easy focus brings non linear dynamics more clearly into focus.*

**2. Notice, Notice, Notice**

*NOTICE what is happening around you and how you are participating in it. No need to look for earth shattering observations, just notice what is happening moment to moment. Noticing is different from analysis, you may get a more intuitive sense of what is going on from noticing regularly.*

**3. Exform**

*This discipline can help you drop some things that may be in the way of an ‘easy focus’. It may also help you to let go of pre-concieved ideas that block you from seeing what is really happening.*

**4. If you want to change a complex system you’re a part of, change your day to day practice**

*Develop new practices and iterate them. You could start by noticing what feels good or right and then doing more of it.*

**5. Let go of some boundaries if you need to**

*Remember, the most resilient patterns emerge on the edge of chaos. If you want to participate in self organisation you’ve got to be willing for things to get a bit messy. Being a bit ambiguous can provide a playful way of removing some boundaries for those around you!*

**6. Set some boundaries if you need to**

*Complex Systems have distinctive patterns in the fluctuations of their variables, they begin from a position of **deterministic** chaos. Generally, the things that are fixed are simple ‘rules of engagement’ within which there are countless possibilities.*

**7. Affirm someone**

*In the Secrets of InterPlay handbook, Porter and Winton-Henry write, “Affirmation creates transformation more easily than criticism”. One easy way to affirm someone can be to simply follow them! Following can be a radical act of leadership in a complex system as it encourages repetition and repetition begets complex emergence.*

**8. Be prepared to be surprised**

*In fact, it is best to not only be prepared for this, you might as well delight in it! Complex systems are inherently unpredictable, you may have to change your approach a few times before agreeable emergent properties emerge.*

**9. Be prepared to work at the pace of the system**

*Complexity evolves at a pace that is not directly controllable. In the case of embodied practices like those in InterPlay, you can only go at the pace of the body. You may also need to be incremental in your approach. Some small steps may help – even if this is a bit linear!*

**10. Notice, Notice, Notice**

*Don’t forget to believe what you notice...*

<sup>17</sup> Refer to Peter Reason and Hilary Bradbury’s publications for more information. There is one listed in the bibliography.

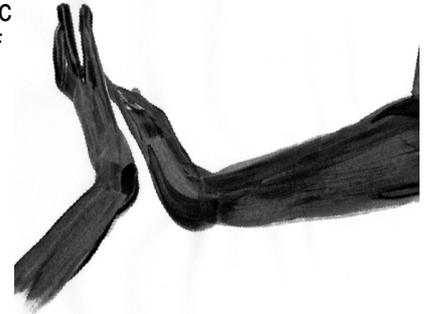
<sup>18</sup> Refer to the website for the The Foundation for P2P Alternatives for more information, [http://p2pfoundation.net/The\\_Foundation\\_for\\_P2P\\_Alternatives](http://p2pfoundation.net/The_Foundation_for_P2P_Alternatives)

<sup>19</sup> Refer to the transition culture website for more information <http://transitionculture.org/>

<sup>20</sup> Numbers 1, 2, 3, 4, 7, 9, 10 are all inspired by the 8 bodywisdom tools of InterPlay. You can see a description of the bodywisdom tools at <http://interplaymonmomemail.wordpress.com/2011/02/28/8-secret-powers-useful-when-change-is-afoot-no-pun-intended/>

# Tapping your Body Wisdom

As has already been explained, in order to understand the living world it seems that we need to engage more of our ways of knowing than the intellectual. As our bodies are actually complex living systems, perhaps **we all have the ability to understand the living world in much richer ways than we realise**. Take the example of reaching to pick up a coffee cup. If we had to calculate using equations and logic the sequence to contract our muscles in to achieve this simple daily action most of us would be utterly incapable of the act. However, we seem to be able to do this without engaging our faculty of thinking at all. Remarkable, is it not? What body of knowledge do we draw upon to perform such calculations? Could it be that we draw on the innate knowledge *of the body*. Can we involve our bodies in making other sorts of decisions and addressing other sorts of problems? Listening and responding with the body can lead to profoundly different ways of understanding our world, and further can be a catalyst to the 'letting come' our deepest intuitions and potential. It is a common belief that we hold a lot of unconscious knowledge in the body. When we engage in body-based and movement-oriented processes, it engages us in a non-literal way of being which can help us to connect with ways of knowing such as our feelings, sensing and intuition more strongly. These are the types of faculties that may help us to be able to get a sense of the complex, living dynamics that we are embedded within in their 'whole' sense. And many people experience this in very real, tangible and powerful ways.



As these concepts can be so difficult to describe, I am going to recap now in a slightly different way....

**In order to understand complex living systems we need to engage all our sensibilities as complex living beings** and supersede the Cartesian mind/body split. This is not something that we are necessarily used to doing in our intellectually dominant cultures, and not something that we develop in our educational programs in the same way that we develop our abstracted understandings of the world. **One approach to this is to use our whole bodies to interpret and respond to the world around us. In this way we can engage our whole being.**

In the seminars accompanying this document I use the techniques of InterPlay a lot as a methodology for superseding the mind/body split. Many of the techniques of InterPlay use improvised movement, often combined with poetry, story or voice work. Phil Porter and Cynthia Winton-Henry (the creators of InterPlay) distinguish between the data, knowledge and wisdom of the body. 'Data' is about what a person is experiencing 'right now', knowledge is about what they noticed as emerging patterns, preferences and aversions; and wisdom is the "application of body knowledge for our own good, for the good of others, for the good of the earth, or the good of all creation."<sup>21</sup> Within InterPlay, participants are encouraged to just **notice** the details of your experience as you perceive it through your whole mind/body/spirit. Once we become too 'serious', we tend to slip into an intellectually dominant mode and then often miss the point! One key to tapping integrated ways of knowing is to keep easy focus, and one way to do this is to simply stay playful... How delicious! Another key can be to respond spontaneously, allow ourselves to 'be moved to act' as I was describing earlier. Our 'gut reactions' and unedited responses arise before we allow reason to dominate, when we are still engaging and responding in more integrated ways. One thing that I've learned about this is that when we 'notice' in these ways we won't be able to separate the personal from the professional. However, in a professional or scholarly context we can use what we notice to understand our own motivations and behaviours better and then blend this knowledge with our professional intellectual judgement.

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<sup>21</sup> Porter & Winton-Henry, 1995, p35

# *The Question I Leave You With...*

Finally, I would like to underscore again that it is not that intellectual thinking is not useful, but we need to be blending all our ways of knowing to live to our full potential. Maybe you need to find your own ways of doing this, maybe those we have played with today are not for you. Listen to your inner authority and engage your own sense of playfulness in exploring what works for you. However, either way, the question I leave you with is this:

*Can you develop ways of being in the world that engage all of your different ways of knowing.... and how might your life, your community and your planet be different if you could?*

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