Coaching for Mindfulness and Wisdom in Complex Environment

Academic adviser:
Eduardo Marques

Rio de Janeiro 2007
### TABLE OF CONTENTS

1.0 INTRODUCTION ................................................................................. 2
   1.1 Research question ................................................................. 3
   1.2 Objective for the dissertation ............................................... 3
   1.3 Limitations for the dissertation ............................................. 3

2.0 REVIEW OF THEORY ...................................................................... 4
   2.1 Must Accidents Happen? ........................................................ 4
   2.2 The Complexity of Today in System ...................................... 6
   2.3 What Makes a Leader in Complexity .................................... 10
   2.4 High-Reliability Organizations ........................................... 12
   2.5 Designing for Dynamic Changing Organizations .................. 14
   2.6 Deep Stage and Autopoiesis .................................................. 19
   2.7 Living Systems and Deep Ecology ........................................ 20
   2.8 Mindfulness in Reliability-Seeking Organizations ............... 23
   2.9 What is Mindfulness? ........................................................... 24
   2.10 The Humanistic Approach to Change ................................. 26
   2.11 The Cognitive Approach to Change .................................... 29
   2.12 Teaching Smart People How to Learn ................................. 34
   2.13 Personality and Change ....................................................... 36

3.0 METHODOLOGY .............................................................................. 39

4.0 ANALYSIS ..................................................................................... 40
   4.1 Phase Space and Attractors .................................................... 40
   4.2 Ethics and Decisions in Complexity ..................................... 42
   4.3 Coaching as a Tool for Mindfulness and Wisdom ............... 43
   4.4 The Evolution of Minds in Coaching .................................... 50
   4.5 Beyond Egoistic Individualism: The Absolute Unitary Being .... 54
   4.6 The Anguish of the Executive Life ....................................... 58
   4.7 Self-Organizing ................................................................. 61
   4.8 Dialogue and Systems Intelligence: A Work Philosophy ....... 63

5.0 CONCLUSION ................................................................................. 67

6.0 BIBLIOGRAPHY ............................................................................. 69
1.0 Introduction

Aker Drilling is a new drilling contractor which received a listing on the Oslo Stock Exchange in December 2005. The largest shareholder Aker ASA controls 39.9 percent of the company’s issued shares. In July 2008 the first of Aker Drilling’s two top-of-the-class sixth generation semi-submersible drilling rigs for harsh environment and ultra-deep water drilling will be due for delivery. The features of the Aker Drilling rigs make them a natural first choice for oil companies exploring wells in challenging waters as well as development drilling programs worldwide. Experience and focus on health, safety and the environment characterise both the management and the operations organisation. The group is constructing a competent organisation based on solid values. Together with ultra-modern rigs, Aker Drilling can thereby offer the highest standards of safety for people and the environment.

Now when Aker Drilling is starting a new drilling company with a diversity of people, they have the possibility to design for reliability and safety, in a way where the company extend itself from other drilling companies. Designing for reliability and safety requires balancing and integrating different and often conflicting goals and behaviors. In this paper I suggest practical design elements appropriate for managing the conflicting tensions of that stage. In complex organizations such as hospitals, healthcare systems, and offshore organizations multiple provider practices should move towards a deep stage to enhance reliability. Organizations face a choice – they can stay in a stage and work to perfect the skills of that stage or they can move towards the deep stage, maintaining the skills of the other stages as well.
1.1 Research question

What kind of characteristics and knowledge should managers in high-reliability organizations have, to ensure the most safely operations among people, technology and the nature offshore?

1.2 Objective for the paper

The primary objective for this paper is to build a compendium for a systemic intervention program for managers working in high-reliability organizations on an offshore rig. The second objective is then to work as a coach for these managers.

1.3 Limitations for the dissertation

This research is limited to search on internet and authors experience and competence.
2.0 Review of Theory

2.1 Must Accidents Happen?

In the more than 20 years since the initial publication of Charles Perrow’s Normal Accidents, practitioners and academics have contemplated how plane crashes, earthendam collapses, ship collisions, nuclear disasters, and chemical-plant explosions can be prevented, mitigated, or avoided. While no one has yet learned how to make the inevitable avoidable, a literature on high-reliability organizations (HROs) has developed that gives some hope that disasters can be minimized in frequency and severity.

Perrow begins his book with a story that about an empty coffeepot left on a burner and cracking from the heat. A chain of events ends with a man’s losing out on a job opportunity because he doesn’t show up on time for the interview. The story illustrates the point that, in most organized systems, especially technologically complex ones, everything is intertwined; the tighter the intertwining, the more susceptible the system is to disaster if anything goes wrong in any part of the system.

Accidents can be viewed as normal because the interdependencies in a system are so great that one small glitch in one place can lead to a large failure somewhere else. Most of the time, the glitch is isolated and fixed before it can mess up something else. Sometimes, however, it’s impossible to catch every glitch, and accidents happen. The more tightly coupled of components of the system and the more complex the interdependencies, the tougher it is to catch everything. Things happen so quickly that the glitches affect something else, or something unexpected happens before the problem can be identified and fixed.

At critical points in a large project, particularly in hazardous environment, mistakes can cost billions of dollars. For example, operators of marine system and structures are writing of their profits to preventable quality compromises. As much as 80% of high-consequence accidents have root causes in human and organizational factors (Moravec, 2006), and are therefore a critical part of understanding and preventing them. Two prominent sociological schools of thought have addressed the organizational aspects of safety: Normal Accident Theory (NAT) (Perrow, 1999) and High Reliability Organizations (HRO) (La Porte, 1996).

Charles Perrow’s initial formulation of what has come to be known as Normal Accident Theory (NAT) was developed in the aftermath of the accident at the Three Mile Island nuclear power plant in 1979. Perrow (1999) introduced the idea that in some technological systems, accidents are inevitable or “normal”. He defined two related
dimensions - interactive complexity and loose/tight coupling - which he claimed together, determine a system’s susceptibility to accidents.

*Interactive complexity* refers to the presence of unfamiliar or unplanned and unexpected sequences of events in a system that is either not visible or not immediately comprehensible. A *tightly coupled system* is one that is highly interdependent: Each part of the system is tightly linked to many other parts and therefore a change in one part can rapidly affect the status of other parts. Tightly coupled systems respond quickly to perturbations, but this response may be disastrous. Loosely coupled or decoupled systems have fewer or less tight links between parts and therefore are able to absorb failures or unplanned behavior without destabilization (Perrow, 1999).

According to the theory, systems with interactive complexity and tight coupling will experience accidents that cannot be foreseen or prevented. Perrow called these *system accidents*. When the system is *interactively complex*, independent failure events can interact in ways that cannot be predicted by the designers and operators of the system. If the system is also *tightly coupled*, the cascading of effects can quickly spiral out of control before operators are able to understand the situation and perform appropriate corrective actions. In such systems, apparently trivial incidents can cascade in unpredictable ways and with possibly severe consequences.

Drilling organizations on oilrig platforms are examples of systems which are interactive complex and tightly coupled. The following story is from 2000 when I was working as an assistant Derrickman on Oseberg B. We were pulling out of the hole with the drillpipe and the bit. Doing this operation four people are engaged doing one job together. This means that we have to be *aware* of what all others are doing as well in the same time. I was sitting in the top cabin of the drill-tower responsible for the upper-arm (a machine that set the drillpipe on the “setback”). The pipe comes up in the drill-tower and I go on with my arm, the same do the “roughneck” down at the drillfloor. When both arms are on, the driller goes of with the elevator (the machine that pulls the pipe out of the hole), and at the same time the lower and upper arm push the drillstand 90 degrees and set it down on the setback. Then a new stand comes up and we go 90 degrees back with our arm and set it on the drillpipe and then to the setback. This is a routine job that might go on for hours doing exactly the same. The three machines and four people necessary for this job are *interdependent*. An alarm goes if one of the machines is in the zone to the other machine.

The driller was pulling out of the hole with high speed when we were inside the casing. Suddenly I hear the alarm goes for maybe two seconds and the next was a crash. The
alarm goes because my arm was placed in a position of 45-50 degrees and not 90 degrees as it should. Because of the crash with the two machines the drill wire had to be shifted. Since we didn’t have a new drill wire on the rig we weren’t able to continue the drilling operation before after almost 30 hours later.

This episode went far into me. I, who had been driving big industry machines since I was 21, was responsible for that we, our company, weren’t able to do our work for almost 30 hours. I remember very well my head was analyzing the situation for days. What was really happening? Why didn’t I put the arm at right place? Where was my mind when this was happening?

2.2 The Complexity of Today in System

The science that we have been used to – normal science methods – was originated with the physical sciences and adopted by the social and behavioral sciences, but the physical sciences have not stayed with “normal” methods. In the 1970s new methods and concepts to deal with enormous complexity emerged and is the beginning to form a new mathematical framework. Chaos theory and fractal geometry are important branches within this nonlinear mathematic. Until recently science has always taught to avoid nonlinear equations because they are very different to solve. Capra (1996) comes with an example, “the smooth flow of water in a river, in which there are no obstacles, is described by a linear equation. But when there is a rock in the river the water begins to swirl; it becomes turbulent. There are eddies; there are all kinds of vortices; and this complex motion is described by nonlinear equations. The movement of water becomes so complicated that it seems quite chaotic.”

Scientists had for the first time in the 1970s powerful computers that helped them to solve nonlinear equations and a new kind of mathematic revealed surprising patterns underneath the seemingly chaotic behavior of nonlinear systems. This new chaos theory is really a theory of order, but of a new kind of order that emerged from this new mathematic. There are several applications from this theory to the social sciences, particularly as a dialectical influence and an incorporation into psychoanalysis (Webb, 2005).

Chaos and complexity theory offers a different way of viewing the field of management and leadership. In the complexity we are living in now we need to understand that uncertainty is the natural order and in stead of fight against the dark forces of chaos, “organizations need to maintain a state of nonequilibrium, a kind of exquisite awareness at the edge of catastrophic change” (Webb, 2005). He says that “this is the phase transition between stability and instability (dissipative structures), where creativity and innovation occur. Here, the links
between cause and effect give way to spontaneous *selforganisation*, and a maximisation of flexibility and responsiveness.”

Self-organization is a property of complex adaptive systems where the systems create patterns and order through the *attraction* or *active* relationship of the variables constituting the complex adaptive system. In Levy’s (1994) own words; “self-organization is the process in which local interaction between agents produces emergent global patterns, the process of continuously changing patterns, the movement from own attractor to another, and the internal capability to create new ones. Patterns, or structures shaped by complex adaptive systems are independent of scale, and can thus be traced whatever horizon is used to view it. These images of patterns within patterns are termed fractals when they are generated by chaotic systems” (Levy, 1994).

Self-organization is not easily applied from chaos and complexity theory into organizational language, but it may be helpful to explain what self-organization is not. The different aspects are summarized in Table A.

<table>
<thead>
<tr>
<th>What self-organization is not…</th>
<th>What self-organization is…</th>
</tr>
</thead>
<tbody>
<tr>
<td>• something that happens, no matter what anyone does</td>
<td>• everything one does, including nothing, has potential consequences</td>
</tr>
<tr>
<td>• waiting for fate or destiny</td>
<td>• co-creation of all interacting agents</td>
</tr>
<tr>
<td>• full democracy; all agents are equal</td>
<td>• not all agents are equal, some pursuing more powerful strategies</td>
</tr>
<tr>
<td>• nothing is done without consensus</td>
<td>• no requirement for consensus; tension between competition and cooperation</td>
</tr>
<tr>
<td>• anarchy</td>
<td>• agents constrained by other agents</td>
</tr>
<tr>
<td>• empowerment in lower echelons</td>
<td>• no connection between disempowerment and self-organization</td>
</tr>
<tr>
<td>• disempowerment in higher echelons</td>
<td></td>
</tr>
</tbody>
</table>

*Source Hundsnes, 2000*

According to Griffin (1998) is “self-organizing the overall pattern of relationships between agents that is organizing itself in the organization, at the same time as the nature of the agents is changing.” It is the structure of the organization and its agents that change and grow through self-organization. This is because the people in the organization are forming and being formed by the overall pattern of relationships (which is global). The system and its agents are emerging together, simultaneously constraining and being constrained by each
other (Stacey, 2000). Thus, “it is not necessary to understand the whole in order to act; it is simply necessary to act on the basis on one’s local understanding” (Stacey, 2000).

Stacy (2000) explains with an example; “if a CEO communicates to many others in his or her organization, and if they responded according to their own local capacities to respond, and their responses had some effect on the CEO, leading to new correspondence from the CEO, then this would be self-organization.”

The terminology of chaos applied to social systems helps us understand the real world of organizational behaviors. To explain the creative possibilities inherent in a dynamic, self-organising enterprise, Wheatley (1992) and Stacey (1995, 1996) used the conceptual framework of chaos and complexity theory. Followed are the applications and limitations of this framework in organisations:

1. Chaotic systems never reach a stable equilibrium. Organisations might reach some temporary, relatively stable pattern, but this is likely to be short-lived.
2. Large fluctuations can be generated internally by deterministic chaotic systems, and small perturbations to networks, even when in an ordered state, can sometimes have major effects (suggesting that executive managers might underestimate the potential for large changes in industry conditions or competitors’ behaviour).
3. Short-term forecasting is possible in a chaotic deterministic system, given a reasonable specification of conditions in one time period (e.g., sophisticated computer modelling of weather is useful for a few days).

An extension of this framework is “Chaordic Systems Thinking” of Fitzgerald and Eijnatten (2002a, 2002b). According to them “A chaordic system is one in which nothing ever happens the same way twice, and yet everything happens in an orderly enough way to preclude complete and utter mess” (Fitzgerald & Eijnatten, 2002a). The five properties of a chaordic system are:
1. Connectivity: *Everything is connected* at some point, even though the connection may be infinitesimally small, and this connectivity is strengthened through interaction.

2. Consciousness: The presence of both a *personal* consciousness and an *organisational* consciousness (suggesting that executive managers need an appreciation for the intangible “within” of a system in order to create sustainable organisations).

3. Indeterminacy: The *non-linearity* of cause and effect, suggesting that every event is the result of the *accumulation of all prior events*, not just one.

4. Emergence: The sudden appearance of higher-order qualities, which originate from the dynamic interaction of the system’s components, although they are neither found in nor are directly deducible from them.

5. Dissipation: The capacity of a chaordic system in “far-from-equilibrium” conditions to *fall apart structurally* while simultaneously maintaining the *integrity of its core identity* (e.g., an organisation may dissipate intentionally, choosing to leap through a window of opportunity rather than risk the ultimate catastrophe of maximum fatal chaos) (Fitzgerald & Eijnatten, 2002a).

Ball (2000) used the chaos framework and interviewed managers and found common themes emerging from those who could best carry out their managerial responsibilities under complex and uncertain conditions (Webb, 2005):

1. accepting complexity and uncertainty as the way of the world
2. establishing guiding principles for setting priorities and making decisions
3. making timely decisions
4. managing the information flow
5. nurturing and sustaining relationships
6. acknowledging and processing emotions
7. being a continuous learner (Ball, 2000).

These themes provide a useful picture of the complexity and the environment in organizations today. According to Webb (2005) “the emergent quality of learning in a complex environment
provides an opportunity for managers to improve their tolerance of complexity.” A tolerance that is crucial to understand for coaches in complex environment with a high speed of change.

2.3 What Makes a Leader in Complexity?
Over the past decades, the social psychology models of self-regulation have proven very effective in training environments that predict success in leadership training programs (Powell, 2002). Likewise, recent research on emotional intelligence and its role in leadership has highlighted the importance of self-regulation, which is a characteristic of emotionally intelligent leaders (Goleman, 1998). According to Goleman people who are in control of their feelings and impulses are able to create an environment of trust and fairness in business contexts rife with uncertainty. He means that people who have mastered their emotions are able to deal constructively with such ambiguity and change.

So how can we tell if someone has high emotional intelligence and how can we recognize it in ourselves? In the followed section Goleman help us to know better the characteristics of emotional intelligence which are important for leaders in these decades.

Self-Awareness
Self-awareness is the first component of emotional intelligence - which makes sense when one considers that the Delphic oracle gave the advice to "know thyself" thousands of years ago. According to Goleman self-awareness means having a deep understanding of one’s emotions, strengths, weaknesses, needs, and drives. People with strong self-awareness are neither overly critical nor unrealistically hopeful. Rather, they are honest - with themselves and with others.

Goleman says that self-awareness extends to a person’s understanding of his or her values and goals. Someone who is highly self-aware knows where he is headed and why; so, for example, he will be able to be firm in turning down a job offer that is tempting financially but does not fit with his principles or long-term goals. A person who lacks self-awareness is apt to make decisions that bring on inner turmoil by treading on buried values.

How can one recognize self-awareness? Goleman mean that first and foremost, it shows itself as candor and an ability to assess oneself realistically. People with high self-awareness are able to speak accurately and openly - although not necessarily effusively or confessionally - about their emotions and the impact they have on their work.
According to Goleman self-awareness can also be identified during performance reviews. Self-aware people know - and are comfortable talking about - their limitations and strengths, and they often demonstrate a thirst for constructive criticism. By contrast, people with low self-awareness interpret the message that they need to improve as a threat or a sign of failure.

**Self-Regulation**

Biological impulses drive our emotions. We cannot do away with them – but we can do much to manage them. Self-regulation, which is like an ongoing inner conversation, is the component of emotional intelligence that frees us from being prisoners of our feelings. Goleman explains that people engaged in such a conversation feel bad moods and emotional impulses just as everyone else does, but they find ways to control them and even to channel them in useful ways.

Why does self-regulation matter so much for leaders? First of all, people who are in control of their feelings and impulses - that is, people who are reasonable - are able to create an environment of trust and fairness according to Goleman. In such an environment, politics and infighting are sharply reduced and productivity is high. He says that talented people flock to the organization and aren’t tempted to leave. And self-regulation has a trickle-down effect. No one wants to be known as a hothead when the boss is known for her calm approach. Fewer bad moods at the top should mean fewer throughout the organization.

**Motivation**

If there is one trait that virtually all effective leaders have, it is motivation according to Goleman. They are driven to achieve beyond expectations - their own and everyone else’s. The key word here is “achieve”. He says that plenty of people are motivated by external factors such as a big salary or the status that comes from having an impressive title or being part of a prestigious company. By contrast, those with leadership potential are motivated by a deeply embedded desire to achieve for the sake of achievement.

If you are looking for leaders, how can you identify people who are motivated by the drive to achieve rather than by external rewards? Goleman says that the first sign is a passion for the work itself-such people seek out creative challenges, love to learn, and take great pride in a job well done. They also display an unflagging energy to do things better. People with such energy often seem restless with the status quo. They are persistent with their questions.
about why things are done one way rather than another; they are eager to explore new approaches to their work explains Goleman.

*Empathy*

Of all the dimensions of emotional intelligence, empathy is the most easily recognized according to Goleman. He says that we have all felt the empathy of a sensitive teacher or friend; we have all been struck by its absence in an unfeeling coach or boss. But when it comes to business, we rarely hear people praised, let alone rewarded, for their empathy. The very word seems unbusinesslike, out of place amid the tough realities of the marketplace.

But for Goleman empathy doesn’t mean a kind of "I’m okay, you’re okay" mushiness. For a leader, empathy means thoughtfully considering employees’ feelings - along with other factors - in the process of making intelligent decisions.

*Social Skill*

Goleman explains that the first three components of emotional intelligence are all self-management skills. The last two, empathy and social skill, concern a person’s ability to manage relationships with others. As a component of emotional intelligence, social skill is not as simple as it sounds says Goleman. It’s not just a matter of friendliness, although people with high levels of social skill are rarely mean-spirited. According to Goleman social skill is friendliness with a purpose: moving people in the direction you desire, whether that’s agreement on a new marketing strategy or enthusiasm about a new product.

### 2.4 High-Reliability Organizations

Research on HROs offers some strategies that organizations can pursue to delay and even defer the inevitable accidents. These studies of aircraft carrier flight decks, medical facilities, financial institutions, fire fighting incident command systems, and commercial petroleum organizations offer techniques to improve the reliability of organizations that should probably fail often, but don’t. These studies have identified three basic things these organizations do to enhance their reliability (Manor, 2001):

- HROs aggressively seek to know what they don’t know.
• HROs design their reward and incentive systems to recognize costs of failures as well as benefits of reliability.

• HROs consistently communicate the big picture of what the organization seeks to do, and try to get everyone to communicate with each other about how they fit in the big picture.

HROs are defined by their unique ability to operate high-hazard technological systems in a nearly error-free manner (Roberts, 1990). These organizations are constantly at risk of failure because their technologies are so complex that elements can combine in unforeseen ways and when errors occur they amplify rapidly because of tight coupling (Perrow, 1999). In many organizations, reliability is achieved by simplifying and standardizing operational tasks and by anticipating and defending against organizational disruptions (Wildavsky, 1988; Reason, 1997). Industries with more complex, interdependent, unpredictable, and unforgiving technologies, whose frontline experts know more about their work than do their supervisors, cannot rely solely on a factory model of “divide and monitor” (Wildavsky, 1988; Weick, 1999).

This is the situation in drilling organizations were the drilling superintendent or “tool pusher” impossibly can know everything about the tools and machines necessary for drilling operation. As for HROs, drilling organizations are also challenged by variability of individual people, rapidly evolving technologies, and shifting financial and regulatory climates.

HRO theory offers design principles such as training and giving discretion to frontline employees, avoiding hierarchy and formalization that inhibits flexibility, and maintaining slack resources, but more specificity is given to cultural values and practices such as mutual respect, heedfulness, collective mind, learning from experience, improvisation, sensemaking, and maintenance of doubt (Schulman, 1993; Weick, 1999). Interdependent groups that must work together effectively and share resources efficiently must be linked and aligned by hierarchy, task forces, information systems, socialization practices, leadership vision, training, and so forth (Galbraith, 1997; Nadler, 1997). Organization theorists are focused increasingly on designing aspects of the informal organization including the learning organization (Senge, 1990), informal networks (Hansen, 2002), improvisation (Crossan, 1998), and safety culture (Reason, 1997).
2.5 Design of Dynamic Changing Organizations

Approaching organizational design with the assumption that organizations, like organisms, are continually growing and evolving in a changing environment, and therefore designing for high reliability is an ongoing self-design process (Cardinal, 2004). Dualities must be managed in tension – such as standardization with flexibility, conformity with initiative, accountability with learning, anticipation with resilience (Wildavsky, 1988), and cost reduction with safety (Cardinal, 2004). In their work with several high hazard organizations, Carroll and Rudolph (2006) found a typical development sequence in which organizations start with a local and decentralized knowledge structure and then move toward a more formalized and standardized design best suited to establishing control. According to them, this “control” form is highly attractive to managers, engineers, regulators, and others who desire reliability and safety. However, not everything can be anticipated and controlled, and therefore organizations that have stalled in their improvement efforts attempt to open their boundaries (for example, try to learn from other organizations) and achieve increased flexibility and innovation which is often at odds with practices and beliefs around control (Sitkin, 1994). If organizations can move beyond openness to a deep and systemic understanding of their operations, they stand a better chance of sustaining the structures and culture that can integrate or maintain productive tension between control and flexibility or learning (Sitkin, 1994).

In the following a brief discussion of design by stage will be done, where I describe some of the typical challenges at each stage and then select high reliability design elements which organizations in each stage use to move forward. Table 1 illustrates the design challenges of the four stages and offer suggestions for design possibilities from classic HRO theory. It is important to realize that many organizations are not uniformly “in a stage” but rather that different parts of the organization may be at different stages. Moving to a next stage does not mean giving up the knowledge and skills of the previous stage, but rather adding to and integrating new capabilities along those already functioning.
Local stage
For most of human history, organizations were small and local – for example, farms and craft workshops. Most work in organizations is still local, as individuals or groups perfect their skills and cope with the constraints and costs of dealing with other groups or the “system”. Departments within local stage organizations or the organizations themselves may have difficulty communicating across professional boundaries. Because of this, reinventing practices rather than building on industry benchmarks that have been established and tested elsewhere is common (Carrol & Rudolph, 2006).

While local autonomy has strengths – fostering specialization, innovation, and improvisation – it can also be a weakness. For example, in thinking that this is not a team endeavour, physicians deny or avoid confronting their own vulnerability and assume they have to be “iron men” who can do everything themselves, learn everything themselves, and work long hours without sleep (Kellog, 2005). Personal accountability easily shades into “shame and blame” of healthcare professionals who are seen as not up to the challenge (Leape, 1994).

### Table 1 High reliability design in different organizational stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Control stage</th>
<th>Open stage</th>
<th>Deep stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges to reliability within stage</strong></td>
<td>Tension between standardizing and innovating</td>
<td>Costs of experimentation: (performance declines while trying new things)</td>
<td>Complex interdependencies: Lure of a quick fix pushes out fundamental improvements/ change</td>
</tr>
<tr>
<td>Local variability and reinventing the wheel</td>
<td>Complacency</td>
<td>Maintaining controls while learning new things</td>
<td>Maintaining slack resources under cost pressures</td>
</tr>
<tr>
<td>Denial/avoidance of vulnerability (“iron man” mentality; “shame and blame” approach to correction)</td>
<td>Knowledge in the rules of experts</td>
<td>Uneven rates of progress regarding openness leading to culture wars</td>
<td></td>
</tr>
<tr>
<td>Difficulty cooperating across-down profit margins boundaries</td>
<td>Competition driving</td>
<td>reflected inter-relating</td>
<td>Reflection skills</td>
</tr>
</tbody>
</table>

**Selected design elements for reliability within stage**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Control stage</th>
<th>Open stage</th>
<th>Deep stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialize</td>
<td>Standardize</td>
<td>Headful inter-relating</td>
<td>Reflection skills</td>
</tr>
<tr>
<td>Improvise</td>
<td>Formalize rules</td>
<td>Cross-functional, cross-hierarchy communication</td>
<td>Systems thinking</td>
</tr>
<tr>
<td>Innovate</td>
<td>Centralize</td>
<td>Mutual respect</td>
<td>Root cause analysis</td>
</tr>
<tr>
<td>Reverse expertise and craft knowledge</td>
<td>Redundancy</td>
<td>Benchmark</td>
<td>Tolerate “worse before better” pattern of process improvement</td>
</tr>
<tr>
<td>Apprenticeships and mentoring</td>
<td>Risk analysis and planning</td>
<td>Training</td>
<td>Maintain safety resources as safety improves</td>
</tr>
</tbody>
</table>

*Source: Carrol & Rudolph, 2006*
Control stage

Much of classic management theory identifies managers as planners and controllers (Lawrence, 1967; Galbraith, 1977; Thompson, 1967). Senior executives are commonly viewed as the architects of the organization who set strategy and communicate the vision while middle managers and supervisors assign roles and tasks and measure and reward performance (Galbraith, 1977). HROs exhibit many strong control characteristics in lengthy procedure manuals, strict rules, extensive training, and strong hierarchy. In an effort to suppress the variability and inefficiency of local innovation, it is natural to view the healthcare system as needing more risk analysis and planning, more standardization, more rules, more performance indicators, more scientific evidence for clinical practices, and more management authority to organize and direct healthcare professionals (Amalberti, 2005).

In the control stage, mastery of routine and standardized clinical service may be accompanied by characteristics “which are designed to repress or forget confusing or contradictory qualities (Weick, 1996). One challenge is how to retain the benefits of control yet also to address novel problems or opportunities that do not fit existing procedures instead of dismissing these as anomalies (Rudolph, 2002). Design features that handle normal situations may conceal or exacerbate ambiguous situations, such as the use of redundancy to increase reliability that may also increase complexity and invisibility and decrease personal accountability (Perrow, 1984).

According to Carrol & Rudolph (2006) because the control stage can make organizations ignore or discount information not consistent with their current procedures and mental models, mastery of control can bring a false and rigid sense of reliability and safety. The capabilities and practices of the open and deep stages help to make the rigid and sometimes fragile reliability of the control stage more robust.

Open stage

In the open stage, organizations design opportunities for diverse viewpoints to engage in conversations through crossfunctional teams and task forces, exchanges of personnel, benchmarking visits, encouragement of participation regardless of hierarchical position, and experimentation with new practices. There are three challenges to reliability in this stage (Carrol & Rudolph, 2006):
• Costs of experimentation with new procedures: performance in well established streamlined processes developed in the control phase may decline while the organization tries new approaches.

• It may be difficult to maintain existing controls or know how to adapt them as the organization experiments.

• There can be clashes between units of the organization that are adopting aspects of a more open culture – for example, cross-functional, cross-hierarchy communication and external benchmarking – and the control culture of other parts of the organization. The new open HRO design structures and practices that include new cross-hierarchical or cross-functional openness may conflict with existing control phase design structures that have been successful for mastering routine operations. In addition, some people may resist new procedures adapted from leading industry practices (benchmarks) because they are “not invented here”.

Elements of design that support reliability at the open stage often come from processes and structures of “heedful interrelating” (Weick, 1993). Heedful interrelating consists of talk and action by which people heed (attend to) each other’s concerns and ideas, drawing out and pulling together people’s specialized knowledge and the unique perspective each person has in specific situations. Processes of heedful interrelating are supported by values acknowledging multiple legitimate perspectives, new emphasis on the ability to acknowledge and manage emotions and conflicts, and attempts to increase trust across levels and functions (Carroll, 2002).

Progress toward the deep stage of systems understanding helps to integrate local, control, and open practices (Carroll & Rudolph, 2006).

Deep stage
Designing for reliability reaches the deep stage when an organization links positive aspects of the local, control, and open stages to systems thinking. Systems thinking is a discipline and framework that helps organizations to perceive interrelationships underlying situations or events and to identify short and long term patterns of change rather than static “snapshots”. It includes specific tools and techniques for mapping causal relationships, noting and accounting for time delays, and finding points of leverage for system change that are usually hidden (Senge, 1990).

According to Carroll & Rudolph (2006) deep stage organizations tend to face the following challenges to reliability. Firstly, complex interdependencies among service or
production functions mean the origins of problems are often obscure and that obvious solutions rarely address these problems. Inaccurate mental models of problems often lead people to well intentioned actions that help in the short run, but create other unintended delayed problems (Senge, 1990; Sterman, 1997). Another challenge to reliability at this stage arises if the organization is successful in improving safety and reliability. Often this success is a result of maintaining some slack and personnel resources available to reflect on and investigate current standard operating procedures. As reliability improves, cost pressures tempt organizations to reduce those resources (Carroll & Rudolph, 2006).

Effective high reliability design elements to address such problems require systems theory, task analysis, cybernetic and system dynamics models, hierarchical control structures, and other ways of seeing and discussing systemic interdependencies, leverage points, temporal delays, and underlying assumptions (Cardinal, 2004; Carroll, 2002). This is what the Institute of Medicine (2001) report means by saying: “Trying harder will not work. Changing systems of care will.” Using the open stage emphasis on valuing multiple perspectives, deep stage organizations mobilize local expertise to continually redesign and refine standard operating procedures. According to Carroll & Rudolph (2006) systems thinking skills allow organizations to link the rational planning and risk analysis skills of the control stage with the emphasis of the open stage on heedful interrelating and of the local stage on local expertise. There is an emphasis on developing comprehensive shared representations (such as process maps and root cause analyses that include physical structures, organizational processes, and individual mental models about these structures and processes). Deep stage organizations use these shared representations to enhance attention to interrelationships and improvement possibilities. Organizations operating at this stage have come to understand that latent failures, vulnerabilities, and system problems are difficult to perceive at a local level and thus difficult to act upon (Reason, 1997; Rudolph, 2002; Sitkin, 1994). These organizations create opportunities for people to examine problems cross-functionally in a way that reduces lapses in safety and reliability generated by unconnected local perspectives and initiatives.

Paradoxically, insights that allow organizations to take complex interdependencies and system-wide linkages into account are often generated by very narrow, qualitative, focused analysis motivated by learning and understanding rather than by finding immediate fixes to problems (Carroll, 2002; Sitkin, 1994; McManus, 2004).
2.6 Deep Stage and Autopoiesis

In 2002 I was working as a drilling engineer onshore as a member of a project team within Hydro. This team had the responsibility to build up the new offshore organizations for Njord Drilling Team. Working within this team, which was characterised as open stage, there was an emphasis on acting open and honest through crossfunctional teams and task forces. Now, six years later we have to go further. We need to understand and behave within the deep stage.

Whilst there is no universally accepted definition of positive safety culture, definitions commonly refer to a shared understanding that safety is a priority. A “good” safety culture is reflected in the positive attitudes and perceptions of the workforce (Pidgeon, 1991). Cox & Cox (1991) argue that workers’ safety attitudes are the most important aspect of a good safety culture. Within deep stage we go further. It’s not just about a safety attitude, but it’s an attitude to the world and the nature. We need to understand that we are on the same team as the nature. In other words, we need to be like the nature, to live like the nature. The nature only wants one thing. To live. Every cell in the nature only wants to support the other one, and to be healthy and alive. That’s the only thing it’s struggling for. Struggling for everyone’s best. To understand the nature of life, we need to understand the notion of autopoiesis.

Capra (1996) relies on the work of Maturana and Varela (1987) and their theory of autopoiesis for understanding life in living systems. Using cell biology as their foundation, Maturana and Varela point out that the key characteristic of a living system is that it continually produces itself. The function of each component of a plant or human cell is to participate in the production of other components in the networks so that network continually makes itself. A primary component of any cell is its membrane, which is the cell’s boundary and maintains the flow of external matter into the cell and dissipates waste into the cell’s external environment: in other words, the input-throughput-output mechanism or process of a living system (Burke, 2002).

According to Burke (2002), the cell (and larger living systems) is self-organizing in that its pattern is not determined by the external environment but is established by the system itself. Thus, living systems are autonomous. Burke (2002) say that they interact with their environments to survive, taking in oxygen, for example, but their internal network or pattern of component relationships is not determined by the environment. “Autopoiesis, then, is seen as the pattern underlying the phenomenon of self-organization, or autonomy, that is so characteristic of all living systems… Moreover, the continual self-making also includes the ability to form new structures and new patterns of behavior” (Capra, 1996). Burke (2002) adds that; however, an exception regarding the cell’s relation to its external environment and
autopoiesis is that carcinogens (from the external environment) can cause cancer, an altering of the cell’s patterns.

To summarize, the idea of autopoiesis is that all living systems continually change their structures, renewing themselves while preserving their patterns of organization. Components of the system “continually produce and transform one another with cells breaking down and building up structures, tissues and organs replacing their cells in continuous cycles. In spite of this ongoing change, the organism maintains its overall identity, or pattern of organization” (Capra, 1996). An interesting observation of Capra is that “our skin replaces its cells at the rate of one hundred thousand cells per minute. In fact, most of the dust in our homes consists of dead skin cells” (Capra, 1996).

2.5 Living Systems and Deep Ecology

With the understanding of autopoiesis its time to be familiar with environmental systems. Ecology is the study of environmental systems, or as it is sometimes called, the economy of nature (Hall, 2007). “Environmental” usually means relating to the natural, versus human-made world; the “systems” means that ecology is, by its very nature, not interested in just the components of nature individually but especially in how parts interact. According to Charles Hall (2007) there are usually four basic reasons given to study and as to why we might want to understand ecology: first, since all of us live to some degree in a natural or at least partly natural ecosystem, then considerable pleasure can be derived by studying the environment around us. Just as one might learn to appreciate art better through an art history course so too might one appreciate more the nature around us with a better understanding of ecology. Second, human economies are in large part based on the exploitation and management of nature. Applied ecology is used every day in forestry, fisheries, range management, agriculture, and so on to provide us with the food and fiber we need. For example, in Argentina in many circles there is no difference between ecology and agriculture, which is essentially the ecology of crops and pastures. Third, human societies can often be understood very clearly from an ecological perspective as we study, for example, the population dynamics (demography) of our own species, the food and fossil energy flowing through our society. Fourth, humans appear to be changing aspects of the global environment in many ways. Ecology can be very useful to help us understand what these changes are, what the implications might be for various ecosystems, and how we might intervene in either human economies or in nature to try to mitigate or otherwise alter these changes (Hall, 2007).
Open system theory is a part of a much larger set of theories that compose a paradigmatic shift from physics to the life sciences, or as Capra (1996) refers to the new paradigm, “deep ecology.” The phrase deep ecology was coined by the Norwegian philosopher Arne Næss in 1973 and he helped give it a theoretical foundation. For Arne Næss, ecological science, concerned with facts and logic alone, cannot answer ethical questions about how we should live. Deep ecology is a recent branch of ecological philosophy (ecosophy) that considers humankind as an integral part of its environment. Deep ecology seeks to develop this by focusing on deep experience, deep questioning and deep commitment. These constitute an interconnected system. Each gives rise to and supports the other, whilst the entire system is, what Næss would call, an ecosophy: an evolving but consistent philosophy of being, thinking and acting in the world that embodies ecological wisdom and harmony. The central spiritual tenet of deep ecology is that the human species is a part of the Earth and not separate from it. A process of self-realization or “re-earthing” is used for an individual to intuitively gain an ecocentric perspective. The notion is based on the idea that the more we expand the self to identify with “others” (people, animals, ecosystems), the more we realize ourselves.

Thus, the new paradigm in Capra’s (1996) own words:

The new paradigm may be called a holistic worldview, seeing the world as an integrated whole rather than a dissociated collection of parts. It may also be called an ecological view (in a broader sense recognizing) the fundamental interdependence of all phenomena and the fact that, as individuals and societies, we are all embedded in – and ultimately dependent on – the cyclical processes of nature.

According to Burke (2002) the basis for systems thinking goes back to the 1930s and was derived by biologists, gestalt psychologists, and ecologists:

In all these fields the exploration of living systems – organisms, parts of organisms, and all communities of organisms – had led scientists to the same new way of thinking in terms of connectedness, relationships and context. This new thinking was also supported by the revolutionary discoveries in quantum physics in the realm of atoms and subatomic particles (Capra, 1996).
The primary criteria for systems thinking are now well-known and accepted as the following (Burke, 2002).

- Living systems are integrated wholes with properties that none of its parts have.
- Living systems nest within other systems.
- A part of a system is actually “a pattern in an inseparable web of relationships” (Capra, 1996).
- “None of the properties of any part of this web is fundamental; they all follow from the properties of the other parts, and the overall consistency of their interrelations determines the structure of the entire web” (Capra, 1996).

Capra (1996) provides a sweeping summary of living systems and then raises an interesting question:

All living systems are networks of smaller components and the web of life as a whole is a multilayered structure of living systems nesting within other living systems – networks within networks. Organisms are aggregates of autonomous but closely coupled cells; populations are networks of autonomous organisms belonging to a single species; and ecosystems are webs of organisms, both single celled and multicellular, belonging to many different species… Common to all these living systems is that their smallest living components are always cells… thus autopoietic (Capra, 1996).

Are larger systems, organizations and human societies, autopoietic (self-making) networks?

According to Burke (2002), Maturana and Valera (1987) state that our current knowledge is not sufficient to give definitive answer. Moreover, they point out, due to language and abstract thinking, human societies are distinct from “lower levels” of organisms and ecosystems. They further states that ants communicate with one another via chemical exchange; humans communicate with language.

Burke (2002) states something very interesting about living systems that all human beings should be aware; “components of organisms exist to serve the larger whole, whereas societies exist for their components, that is, individual human beings. Furthermore, the laws of nature are not the same as the laws of a society; the latter can be broken, but the former cannot. Humans can choose to interact or not; molecules cannot choose to interact – they must.”
2.8 Mindfulness in Reliability-Seeking Organizations

Few weeks after the accident offshore I visited my Father at home where I asked him if he had a book to borrow me about “how to get better concentration”. I had resonated me forward to that I was not concentrated in the “moment of truth” in the upper cabin. If I should be working in a high-hazard technological environment like these on the oilrigs I had to stay in present to avoid failures like this. My Father is a dentist who always has been very fond of reading. His house is full of all kind of books. When I was growing up and had any kind of doubts it was nice to ask him because he had an answer with a good reasoning. So this day when I asked him about a book about how to get better concentration, he didn’t give me a book with this title, but 5-6 books about personally insight and self-development. I took the books with me and put them together with all of my books. It should show that after about six months I start to read one.

This one had teased me because of what was written back on the book of a Norwegian author; “If we are going to have it good together with someone, we first have to have it good with ourselves”. I liked this sentence and found it naturally. In the book I was presented for many funny and interesting exercises that I had join and pleasure of doing in the “boreness” of normal day-to-day life. Especially when I was offshore for two weeks and totally shut out of the world I was practising these exercises that make me more aware of my innerself. For a couple of years I became very interested in self-development and I read a lot of books about the subject. In 2001 I travelled to Fiji, Australia and Thailand for ten weeks with the goal to learn yoga and meditation. The following years I joined several courses within yoga, meditation and self-development.

Scholars argue that reliability-seeking organizations address the tight coupling and interactive complexity of their organization-environment relations through mindfulness (Weick & Sutcliff, 2001; Weick, 1999). Mindfulness is appropriate for reliability-seeking organizations because it “both increases the comprehension of complexity and loosens tight coupling” (Weick, 1999) and encourages organizations to constantly probe their environments for ways to stay ahead through innovation (Brown & Eisenhardt, 1997).

Mindfulness has been proposed as a concept to bridge HROs and other reliability-seeking organizations because reliability in both settings is theorized to emerge from “the input side: what they pay attention to, how they process it, and how they struggle to maintain continuing alertness” (Weick & Sutcliff, 2001). Second, mindfulness is of critical importance to reliability-seeking organizations as it allows them to more rapidly detect weak signals from interactively complex environments earlier and respond to them more
effectively. According to Langer (1989) mindfulness also loosens tight coupling by creating alternative paths of action. Lastly, mindfulness should also enhance a organization’s ability to innovate because “creating new categories, exploring perspectives, and focusing on process all increase the possibility that a novel approach to a problem will be discovered” (Langer, 1989).

2.8 What is mindfulness?

A sign on the wall of a machine shop run by the New York Central Railroad reads, “Be where you are with all your mind.” If one believes that “order or confusion of society corresponds to and follows, the order or confusion of individual minds” (Thera, 1996), then the New York Central is moving in the right direction by trying to reduce confusion and mistakes through greater mindfulness according to Weick and Putnam (2006). What exactly what they are moving toward is unclear, because mindfulness means something quite different in Eastern and Western thought.

In Eastern thought, to be where you are with all your mind means to pay more attention to internal processes of mind rather than to the contents of mind. Eastern mindfulness means having the ability to hang on to current objects; remember them; and not lose sight of them through distraction, wandering attention, associative thinking, explaining away, or rejection (Weick & Putnam, 2006).

The concept of mindfulness has roots in Buddhist and other contemplative traditions where conscious attention and awareness are actively cultivated. It is most commonly defined as “the state of being attentive to and aware of what is taking place in the present” (Brown & Ryan, 2003). For example, Nyanaponika Thera (1972) called mindfulness “the clear and single-minded awareness of what actually happens to and in us at the successive moments of perception. Hanh (1976) similarly defined mindfulness as “keeping one’s consciousness alive to the present reality”.

In Western thought, management theorists define mindfulness as the quality of collective enhanced attention that enables organizations to minimize errors, remain vigilant, and respond effectively to unexpected events (Weick et al., 1999; Fiol and O’Connor, 2003). The notion of mindfulness was initially developed in the psychology literature at the individual level of analysis (Sternberg, 2000), and introduced into organizational studies in discussions contrasting automatic and non-automatic information processing (Sims and Gioia,
1986; Sandelands and Stablein, 1987), and in research on High Reliability Organizations (Weick and Roberts, 1993; Weick, 1999).

Langer (1987, 1997) and Gudykunst (1995) regard mindfulness as a strategic moderator of uncertainty in communication. Langer defines “mindful learning” as having three characteristics, “continuous creation of new categories, openness to new information, and an implicit awareness of more than one perspective” (Langer, 1997). She asserts that this ability to cognitively shift contexts “increases flexibility, productivity, innovation, leadership ability, and satisfaction” (Langer, 1989). In contrast to Bandura's self-efficacious and task-oriented response to uncertainty, Gudykunst (1995) concludes that one of the chief neutralizers of “mindfulness” in ambiguous cross-cultural situations is excessive “outcome orientation.” Particularly relevant to leadership praxis is Langer's (1989) observation that “mindlessness” sets in when we become too “expert” and are so comfortable with customary categories that creativity and problem solving are undermined.

In comparison, less-mindful behavior was characterized as relying on past categories, acting on automatic pilot, precluding attention to new information, and fixating on a single perspective (Langer, 1997; Weick, 1999; Fiol & O'Connoe, 2003). Less-mindful organizations are characterized as being entrapped in existing knowledge structures, by automatic behavior that precludes attending to new information, and by action that operates from a single perspective. “Being mindless, colloquially speaking, is like being on automatic pilot” (Langer, 1997).

Marsha Linehan, Ph.D., is a Professor of Psychology and works at Behavioral Tech LLC, a behavioral technology transfer group. This group see mindfulness in its totality, as something that has to do with the quality of awareness that a person brings to everyday living; learning to control your mind, rather than letting your mind control you. They writes that mindfulness as a practice directs your attention to only one thing, and that one thing is the moment you are living in. When you recognize the moment, what it looks like, feels like, tastes like, sounds like – you are being mindful according to this group. They add that “mindfulness is the process of observing, describing, and participating in reality in a non-judgmental manner, in the moment and with effectiveness. At the same time, mindfulness is the window to acceptance, freedom, and wisdom” (Behavioral Tech LLC, 2007).
2.10 The Humanistic Approach to Change

Daniel Goleman’s (1998) research on emotional intelligence and management competence suggested that what makes for more effective managers is their degree of emotional self-awareness and ability to engage with others on an emotional level. According to Cameron & Green (2004), humanistic psychology would not agree, but go one step further in stating that “without being fully present emotionally in the situation you cannot be fully effective, and you will not be able to maximize your learning, or anyone else’s learning.”

The humanistic psychological approach to change emerged as a movement in the United States during the 1950s and 1960s. The American Association of Humanistic Psychology describes it as “concerned with topics having little place in existing theories and systems: e.g. love, creativity, self, growth… self-actualization, higher values, being, becoming, responsibility, meaning… transcendental experience, peak experience, courage and related concepts” (Cameron & Green, 2004).

Humanistic psychology has a number of key areas of focus for a coach:

- The importance of subjective awareness as experienced by the individual.
- The importance of taking responsibility for one’s situations – or at least the assumption that whatever the situation there will be an element of choice in how you think, how you feel and how you act.
- The significance of the person as a whole entity (a holistic approach) in the sense that as humans we are not just what we think or what we feel, we are just our behaviors. We exist within a social and cultural context (Cameron & Green, 2004).

Rowan (1983) meant the humanistic psychology has “unlimited aims….our prime aim is to enable the person to get in touch with their real self.” Maslow (1970) did not follow the path of earlier psychologists but was more interested what makes men and woman creative, compassionate, spontaneous and able to live their lives to the full. He studied the lives of men and women who had exhibited these traits during their lives, and out this come what we knows as the hierarchy of needs. See figure 3.
Maslow (1970) believed that human beings have an inbuilt desire to grow and develop and move towards something he called self-actualization. In order to develop self-actualization an individual has to overcome or satisfy a number of other needs first. Physical needs are requirements such as food, water, shelter and sexual release. Safety needs are those that are concerned with the level of threat and desire for a sense of security. Love and belonging needs are more interpersonal. This involves the need for affection and affiliation on an emotionally intimate scale. A sense of belonging can rarely be achieved unless an individual gives as well as receives. People have to invest something of themselves in the situation or with the person or group.

One of Maslow’s insights was that until the lower level needs were met an individual would not progress or be interested in the needs higher up the pyramid. He saw the first four levels of needs as “deficiency” needs. By that he meant that it was the absence of satisfaction that led to the individual being motivated to achieve something.

Self-esteem needs are met in two ways. They are met through the satisfaction individuals get when they achieve competence or mastery something. They are also met through receiving recognition for their achievement.

Maslow postulated one final need – the need for self-actualization. He described it as “the desire to become more and more what one is, to become everything that one is capable of becoming”. He observed that people continued to search for something else once all their needs were being satisfied. Individuals try to become the person they believe or feel that they are capable of becoming. Griffin (1991) saw it as:
“Self-actualization can take many forms, depending on the individual. These variations may include the quest for knowledge, understanding, peace, self-fulfilment, meaning in life, or beauty…but the need for beauty is neither higher nor lower than the other needs at the top of the pyramid. Self-actualization needs aren’t hierarchically ordered.” (Griffin, 1991)

One of the founders of the humanistic movement, Carl Rogers, has written extensively on the stages through which people travel on their journey towards “becoming a person”. His work was predominately based on his observation in the field of psychotherapy. However he was increasingly interested in how people learn, how they exercise power and how they behave within organizations.

As a psychologist Rogers is an important researcher and writer for consultants, as his “client-centred approach” to growth and development provides clues and cues as to how we as change agents might bring about growth and development with individuals within organizations. According to Cameron and Green, Rogers (1967) highlighted three crucial conditions to occur:

- **Genuineness and congruence**: to be aware of your own feelings, to be real, to be authentic. Rogers` research showed that the more genuine and congruent the change agent is in the relationship, the greater the probability of change in the personality of the client.

- **Unconditional positive regard**: a genuine willingness to allow the client’s process to continue, and an acceptance of whatever feelings are going on inside the client. Whatever feeling the client is experiencing, be it anger, fear, hatred, than that is all right. It is saying that underneath all this the person is all right.

- **Empathic understanding**: in Rogers` (1967) words, “it is only as I understand the feelings and thoughts which seem so horrible to you, or so weak, or so sentimental, or so bizarre – it is only as I see them as you see them, and accept them and you, that you feel really free to explore all the hidden roots and frightening crannies of your inner and often buried experience” (Cameron & Green, 2004).

Gestalt therapy originated with Fritz Perls was interested in the here and now. Perls believed that a person’s difficulties today arise because of the way he or she is acting today, here and now. In Perls’s words (1976):
“The goal...must be to give him the means with which he can solve his present problems and any that may arise tomorrow or next year. The tool is self-support, and this he achieves by dealing with himself and his problems with all the means presently at his command, right now. If he can be truly aware at every instant of himself and his actions on whatever level – fantasy, verbal or physical – he can see how he is producing his difficulties, he can see what his present difficulties are, and he can help himself to solve them in the present, in the here and now”.

A consultant using a Gestalt approach has the primary aim of showing clients that they interrupt themselves in achieving what they want. Gestalt is experiential, not just based on talking, and there is an emphasis on doing, acting and feeling. A favourite saying of Fritz Perls was to “get out of your mind and come to your senses”. Experiencing has as its basis what one is sensing. “Sensing determines the nature of awareness” (Perls, Hefferline and Goodman, 1951).

Cameron and Green explain that “what we sense outside of ourselves or within leads to awareness. Awareness comes when we alight or focus upon what experiencing”. Nevis (1998) describes it as “the spontaneous sensing of what arises or become figural, and it involves direct, immediate experience”. He gives comprehensive list of the many things that we can be aware of at any moment, including the following:

- **What we sense**: sights, sounds, textures, tastes, smells, kinaesthetic simulations and so on.
- **What we verbalize and visualize**: thinking, planning, remembering, imaging and so on.
- **What we feel**: happiness, sadness, fearfulness, wonder, anger, pride, empathy, indifference, compassion, anxiety and so on.
- **What we value**: inclinations, judgements, conclusions, prejudices and so on.
- **How we interact**: participation patterns, communication styles, energy levels, norms and so on (Nevis, 1998).

### 2.11 The Cognitive Approach to Change

The cognitive approach is commonly used in the field of coaching today and focuses on building a positive mental attitude to stretching goals. A cognitive psychologist is interested
in learning about developing the capacity for language and a person’s capacity for problem solving. They are interested in what happens within a person’s brain. Cognitive theory is founded on the premise that our emotions and our problems are a result of the way we think (Cameron & Green, 2004). Individuals react in the way that they do because of the way they appraise the situation they are in. By changing their thought processes, individuals can change the way they respond to situations.

Much work has been done by Aaron Beck on cognitive therapy (1970) and Albert Ellis on rational-emotive therapy (Ellis and Grieger, 1977). Ellis emphasized:

The importance of 1) people’s conditioning themselves to feel disturbed (rather than being conditioned by parental and other external sources); 2) their biological as well as cultural tendencies to think “crookedly” and to needlessly upset themselves; 3) their uniquely human tendencies to invent and create disturbing beliefs, as well as their tendencies to upset themselves about their disturbances; 4) their unusual capacity to change their cognitive, emotive and behavioral processes so that they can: a) choose to react differently from the way they usually do; b) refuse to upset themselves about almost anything that may occur, and c) train themselves so that they can semi-automatically remain minimally disturbed for the rest of their lives. (Ellis, in Henrik, 1980)

Beck (1970) developed cognitive therapy based on the “underlying theoretical rational that an individual’s affect (moods, emotions) and behavior are largely determined by the way in which he constructs the world; that is, how a person thinks determines how he feels and reacts” (John Rush, in Henrik, 1980). Rokeac’s belief system theory emerged in the 1960s and 1970. He suggested that an individual’s self concept and set of deeply held values were both central to that person’s belief and were his or her primary determinant. Thus individuals’ values influence their beliefs, which in turn influence their attitudes. Individuals’ attitudes influence their feelings and their behavior.

Out of Rokeac’s belief system theory has grown a way of looking at change within individuals in a very purposeful way. Essentially individuals need to look at the way they limit themselves through adhering to old ways of thinking, and replace they with new ways of being. This approach does not refer to the external stimuli and the responses to the stimuli. It is more concerned with what individuals plan to achieve and how they go about this.

Key questions in achieving results in organizational context are according to Cameron & Green (2004) as shown in figure 4.
Figure 4: Achieving results

<table>
<thead>
<tr>
<th>Self concept &amp; values</th>
<th>Beliefs</th>
<th>Attitudes</th>
<th>Feelings</th>
<th>Behavior</th>
<th>Results</th>
</tr>
</thead>
</table>

- **Self concept and values**: what are my core values and how do they dovetail with those of my organization?
- **Beliefs and attitudes**: what are my limiting beliefs and attitudes and with what do I replace them?
- **Feelings**: what is my most effective state of being to accomplish my goals and how do I access it?
- **Behavior**: what specifically do I need to be doing to achieve my goals and what is my first step?
- **Results**: what specific outcomes do I want and what might get in the way?

Added to Rokeach’s belief system theory the cognitive approach to change advocates the use of goals. The assumption is that the clearer the goal, the greater the likelihood of achievement. Consider the following case study from Cameron and Green (2004). Graduates at Yale University in the United States were surveyed over a period of 20 years. Of those surveyed, 3 per cent were worth more than the other 97 per cent put together. There were no correlations with parental wealth, gender or ethnicity. The only difference between the 3 per cent and the 97 per cent was that the former had clearly articulated and written goals, and the latter grouping did not.

The cognitive approach has generated numerous techniques for changing the beliefs of people and thereby improving their performance. According to Cameron and Green (2004) these include the following:

*Positive listening*

Simply list all the positive qualities you have, such as good feelings, good experiences, good results, areas of skills, knowledge and expertise. By accepting that these are all part of you, the individual, you can reinforce all these positive thoughts, feelings and perceptions, which then lead to enhanced beliefs.
**Affirmations**

An affirmation is a positive statement describing the way that you want to be. It is important that the statement is:

- **Personal:** “I am always enthusiastic when it comes to work!” It is you who this is about, and it is as specific as you can make it.
- **Present tense:** “I am always enthusiastic when it comes to work” It is not in the future, it is right now.
- **Positive:** “I am always enthusiastic when it comes to work” It describes a positive attribute, not the absence of a negative attribute.
- **Potent:** “I am always enthusiastic when it comes to work” Use words that mean something to you.

Write down your own affirmation and put it on a card and read it out 10 times a day. As you do so, remember to imagine what you would feel, what would you see, what you would hear if it were true.

**Visualizations**

Visualizations are very similar to affirmations but focus on a positive, present mental image. Effective visualizations require you to enter a relaxed state where you imagine a specific example of the way you want to be. You imagine what you and others would see, what would be heard and what would be felt. Using all your senses you imagine yourself achieving the specific goal. You need to practise this on a regular basis.

**Reframing**

Reframing is a technique for reducing feelings and thoughts that impact negatively on performance. You get daunted when going in to see the senior management team? Currently you see them large, full of colour, vitality and menacing presence? Imagine them in the boardroom, but this time see them all in grey. Maybe shrink them in size, as you would a piece of clip art in document that you are word processing. Turn down their volume so they sound quite quiet. Run through this several times and see what effect it has on your anxiety.
Pattern breaking

Pattern breaking is a technique of physically or symbolically taking attention away from a negative state and focusing it on a positive. Take the previous example of going into the boardroom to meet the senior management team (or it could be you as the senior management going out to the staff and feeling a little awkward). You find you have slipped into being a bit nervous, and catch yourself. Put your hand in the shape of first to your mouth and give a deep cough, or at an appropriate moment clap your hands firmly together and say, ”Right, what I was thinking was…” Once you’ve done the distraction, you can say to yourself, “That wasn’t me. This is me right now.”

Detachment

This is a similar technique with the same aim. Imagine a time when you did not like who you were. Perhaps you were in the grip of a strong negative emotion. See yourself in that state, then imagine yourself stepping outside or away from your body, leaving all that negativity behind and becoming quite calm and detached and more rational. When you next catch yourself being in one of those moods, try stepping outside of yourself.

Anchoring and resource states

These are two techniques where you use a remembered positive experience from the past which has all the components of success. For example, remember a time in the past where you gave an excellent presentation. What did you see? What did you hear? What did you feel? Really enter into that experience and pinch yourself and repeat a word that comes to mind. Rerun the experience, and pinch yourself say the word – and the experience should return. Before your next presentation, as you go into the room reconnect to the positive experience by pinching yourself and saying the word. Does it work? If it does not, simply try something else.

Rational analysis

Rational analysis is a cognitive technique par excellence. It is based on the notion that our beliefs are not necessarily rational: “I could never do that” or “I am always going to be like that”. Rational analysis suggests you to write down all the reasons that are incorrect. You need to be specific and not generalize (for example, I’m always doing that -always?) You need t set measurable criteria, objectively based, and you need to use your powers of logic.
By continuously proving that this is an irrational belief you will eventually come to disbelieve it.

2.12 Teaching Smart People How to Learn

Argyris (1991) explains that highly skilled professionals don’t know how to learn, because they are almost always successful at what they do. Since they rarely have failed, they have never learned how to learn from failure. So whenever they then do wrong, they become defensive and put the “blame” on anyone and everyone but themselves. According to Argyris their ability to learn shuts down precisely at the moment they need it the most.

So, what explains that the professionals become so defensive when they do a failure? It’s not their attitude or commitment to the task, they really want to do their best. Rather, the key factor is the way they reasons about their behavior and that of others. Everyone develops a theory of actions – a set of rules that individuals use to design and implement their own behavior as well as to understand the behavior of others (Argyris, 1991). Usually, these theories of actions become so taken for granted that people don’t even realize they are using them.

Argyris continues with that one of the paradoxes of human behavior is that people consistently act inconsistently; unaware of the contradiction between the way they think they are acting and the way they really act. There seems to be a universal human tendency to design one’s actions consistently according to four basic values:

1. To remain in unilateral control,
2. to maximize “winning” and minimize “loosing”,
3. to suppress negative feelings, and
4. to be as “rational” as possible – by which people defining clear objectives and evaluating their behavior in terms of whether or not they have achieved them.

According to Argyris the purpose of all these values is to avoid embarrassment or threat, feeling vulnerable or incompetent. Defensive reasoning encourages individuals to keep private the premises, inferences, and conclusions that shape their behavior and to avoid testing them in a truly independent, objective fashion. Because the attributions that go into defensive reasoning are never really tested, it is a closed loop, remarkably impervious to conflicting points of view.
So what must people do to learn how to reason productively? Argyris say that we must first learn to identify the inconsistence between our espoused and actual theories of action. *We must face up the fact that we unconsciously design and implement actions that we do not intend.* When we embark on this learning process we will discover that the kind of reasoning necessary to reduce and overcome organizational defences, is the same kind of “tough reasoning” that underlies the effective use of ideas in strategy, finance, marketing and manufacturing. Human resource programs no longer need to be based on “soft” reasoning but should be as analytical and as data-driven as any other management disciplines.

Argyris mean that we have to make the ways managers and employees reason about their behavior a focus of *organizational learning and continuous improvement programs.* The first step is for managers at the top to examine critically and change their own theories of action. The insights they gain will allow them to act more effectively in the future – both as individuals and as a team. They will develop a far deeper and more textured understanding of their role as members of the organization. They will lay the groundwork for continuous improvement that is truly continuous. They will learn how to learn.

When Argyris say “as analytical and as data-driven as any other management disciplines” I believe he is thinking of a 360 degree feedback process. This is a process for the systematic gathering of information on an individual’s performance from a variety of sources and comparing this information with the individual’s own perception of performance. The sources of feedback can include the manager, customers, suppliers, peers, subordinates, and colleagues. Feedback is the basis of social learning. According to Uddin (2003) individuals need to be receptive and willing to learn and act on feedback from others to be effective at work.

Judge and Cowell (1997) are agreed about that the best executive coaches use some form of 360 feedback with their client. Indeed, research has confirmed that the use of 360 feedback is one of the best methods to promote increased self-awareness of skill strengths and deficiencies in managers (Hagberg, 1996; Rosti and Shipper, 1998; Shipper and Dillard, 2000).

Burke (2002) says that the behavioral practices should be as tailored to the organization’s change needs, mission, and values as possible, and then be arranged into a rating questionnaire using a 5-point Likert scale. Each of the behavioral statements is so rated twice – first, according to the extent to which the person being rated practiced that specific behavior, and second, according to how important the behavior is for the organization being rated. The degree of congruence / divergence in the ratings is the main focus of attention.
In addition to the behavioral practices, three other rating instruments related more to one’s personality, should be used in the feedback process. Because individual are difference, it is a matter of context. Burke (2002) explains that one’s day-to-day behavior is in part a function of the situation and in part due to a person’s temperament or personality. In a sense, one’s behavior is foreground and the personality underlying the behavior is background.

Thus, in providing feedback to a person about behavior, that form of feedback can be understood more thoroughly if one can also see the rated behavior in the context of his nature, that is, personality and temperament. An introverted individual behaves differently from one who is extraverted. Linking this dimension of personality to behavior can help one more clearly understand feedback from others.

The three self-rating instruments are; 1) Myers-Briggs Type Indicator (MBTI) with over 200 questions has strengths of reliability and validity. 2) Leadership Assessment Inventory (LAI) consists of 18 items that measure an individual’s preference for leadership as compared with management. 3) NEO-Personality Inventory provides measures that are linked to the “Big Five” factors of personality;

- Neuroticism: the individual tends to be anxious, depressed, and angry.
- Extraversion: the individual tends to be gregarious, warm toward others, and outgoing.
- Openness: primarily meaning open to ideas and new learning; behaviors likely characterized by curiosity, a love of intelligence, and creativity.
- Agreeableness: the individual tends to be cooperative, trustworthy, kind, and sympathetic toward others.
- Conscientiousness: the individual tend to reliable, well organized, responsible, and disciplined.

2.12 Personality and Change
I understand that I have to be aware of that we people are not like. There exist different types of personalities and people have different background, knowledge, skills, experiences and motivation. I understand that these factors determine how we respond to change. The Myers Briggs type of individual can give us an indication of how an individual will respond to change. Also does it help us to see why other people are different from us, and be aware of
how that may lead to either harmony or conflict. The Myers-Briggs Type Indicator (MBTI) is a well known and widely used personality inventory based on the psychological theories of Carl Gustav Jung. It is often used as a tool for discovering and understanding different normal human personalities and can be utilized in a variety of applications such as academic counselling, career development, conflict resolution, leadership training and relationship counselling.

Based on Jung’s psychoanalytical theories, Myers deduced that there were four dichotomies which made people differ from one another and referred to them as ‘type preferences’. The four dichotomies and their brief descriptions are presented below (Delicia, 2005):

• **Extraversion or Introversion**: Indicates whether people prefer to acquire their personal energy from the outer world of people and activities, or from inner world of ideas and thoughts. E.g., extraverts prefer being in large group of people and introverts tend to take pleasure in quieter activities.

• **Sensing or Intuition**: Describes how people take in information, whether they focus on what is actual and real (factual-based) or prefer to interpret or apply meaning to what they see. E.g., people who prefer sensing is down-to-earth and more dependent on past experiences, whereas people who prefer intuition are considered idealists and rely more on the future.

• **Thinking or Feeling**: Indicates how people prefer to make decisions, whether it is based on logical thinking or influenced by their concerns for themselves and others. E.g., people who prefer feeling over thinking are generally predominant in helpful professions such as counselors and they pay close attention to other people’s needs. In addition, those who prefer thinking may seek factual clarity in solving disputes.

• **Judging or Perceiving**: Describes the way you manage you life and how you deal with the outer world, whether in an orderly manner or spontaneously. E.g., people who prefer judging like to have everything in order and in a scheduled manner. On the contrary, people who prefer perceiving are more unplanned and spontaneous in their lifestyle, including making decisions.

The MBTI has been researched and validated for over 50 years now, and people rarely move permanently from their preferred “home type” according to Cameron & Green (2004). This is
important to consider when dealing with human beings within change, that people with different preferences react differently to change, both when they initiate it and when they are on the receiving end of it.
3.0 Methodology

In order to become familiar with the theory around the research question, exploratory research was conducted in order to provide significant insight into the subject. Now will I work further and make an intervention program for the oil & gas industry with emphasis on relationship between the human beings and the nature. The research will have a qualitative design, which is one of the two major approaches to research methodology in *social sciences*. The social sciences are a group of academic disciplines that study human aspects of the world. Qualitative research involves an *indepth* understanding of human behavior and the reasons that govern human behavior. Qualitative research investigates the *why* and *how* of decision making, as compared to *what*, *where*, and *when* of quantitative research.
4.0 Analysis

4.1 Phase Space and Attractors

Organization change theory barely exists because measuring organization change is extremely complex and therefore requires complex approaches and methods. Svyantek (Svyantek & Brown, 2000) refers to “complex-systems approach” to the study of organizations, meaning that organizational behavior can rarely be explained by analysis, but the system should be breaking down into its component parts:

Explaining the behavior of a complex system requires understanding (a) the variables determining the system’s behavior, (b) the patterns of interconnections among these variables, and (c) the fact that these patterns, and the strengths associated with each interconnection, may vary depending on the time scale relevant for the behaviors being studied (Svyantek & Brown, 2000).

Regarding to point (c) the measurement of reaction time, Svyantek and Brown (2000) states that “with respect to light, sound, a machine, or the human nervous system, reaction time changes may occur in milliseconds, whereas for change in “corporate performance, the time scale might be in months or years.”

Svyantek and Brown (2000) pointed out some fundamental differences between traditional approaches to the study of organizations and the complex systems approaches that rely on nonlinear methods:

The data gathered consist of multiple measurements of both independent and dependent variables, and these data are then graphed. The predictions made are more molar and qualitative than the predictions in traditional approaches. The value of these predictions is based on the degree to which a consistent pattern of behavior is found in the system across the repeated measurements. The results of such an experiment are used to make predictions that are context-specific (Svyantek and Brown, 2000).

Svyantek and Brown (2000) proposed two nonlinear concepts “that have explanatory value for understanding social systems…phase space and attractor.” Phase space consists of a depiction of a multiple behavioral measurements over time (the phase aspect). The depiction can be a three-dimensional graph (the space aspect) that shows how a particular behavior can be affected by, for example, three different variables over time. Richter (1986) provided examples of this phase space method: how an individual’s responses in a particular situation
may be affected by his or her level of aggressiveness, fear, and guilt, all at the same time and over time. Patterns of behavior can be traced.

**Attractors** are these patterns of behavior. Attractors have two primary characteristics: sensitivity to initial conditions and stability.

*Sensitivity to initial conditions* means that an organization’s history is highly important. This is because *early feedback about behaviors* in an organization’s developmental stages gets reinforced and stabilized (dissipative structures). Two organizations in the same industry originated at the same time under similar conditions can become very different from another over time. Due to highly specific, even undetectable, behaviors being consistently reinforced in the first year, small differences at the beginning can lead to large differences years later.

Consider the following story of Burke (2002) to better understand attractors. After almost 150 years of independent existence, two banks with about 1700 employees each decided to emerge. These two businesses were remarkably similar. Both were found at about the same time, in the mid-19th century, in the same community of the larger metropolitan area; and then decades later, they were almost equal in size and terms of number of employees, number of directors on the respective boards, annual revenues, and number of branches. Moreover, the announcement of the deal was touted as a “merger of equals.” At the outset, the consulting project seemed easy for Burke. He says that “such similarities would no doubt make the integration of the two banks quick and smooth.” In reality, the merger was anything but quick and smooth. The corporate cultures of the two banks, despite all those similarities, were entirely different. The culture of Bank A was loose, risk taking, rather than spendthrift, and led rather than managed, whereas Bank B could be characterized as tight, risk averse, highly cost conscious, and managed, not led. The descriptors of the two cultures are example of multiple behaviors that represent the phase space concept (Burke, 2002). This helps us to understand the cognitive theory, which claims that we are a result of the way we think, and therefore is self responsible for what we attract into our lives. Burke (2002) continues; a century earlier, small, undetectable but different behaviors (cognition) in each of the two banks were positively reinforced (and became attractors), and decades later, these differences loomed large. According to Burke (2002) it took more than two years for the merger to even be accepted, much less integrated.

The second characteristic of attractors, *stability,* is best understood as an organization’s culture. Interestingly in this context, Schein (1985) pointed out the importance of a founder’s behavior in shaping an organization’s culture, especially in
terms of what he or she emphasizes and values. We must therefore at the organization level think in terms of attractors regarding organizational culture (norms and values) and what gets systematically reinforced, so that we can strengthen some attractors and eliminate others. When we understand this, we understand that we attract how we behave within phase space.

4.2 Ethics and Decisions in Complexity

Boaler (2002) said that teaching is an action and not a knowledge base. I will argue that the same is coaching. As an action, coaching has consequences for the clients and the society. The question of ethics is not new in education. Mgo belo (2006) argue for that there “exists” an open ethics, drawing from domains of intellectual practice interested in those elements of human consciousness that are crucial for understanding human actions and relationships within teaching. She believes that the question of ethics in teaching therefore cannot be dealt with satisfactorily without addressing the nature of human consciousness and she say that “this is especially important in this era, where more and more we are witnessing a dissatisfaction of the ethics grounded on objectivism and its dualistic notions” (e.g., mind/body, particular/universal, nature/culture and so on). This type of ethics is according to her at the centre of teaching as an action and as a human relationship. This is an ethics that is based on the fact that we are part of the world and therefore responsible for our actions. As von Foerster (1994) states:

… if I consider myself as apart from the world then because of my independence I can tell others how to think and to act: ‘Thou shalt ….’ ‘Thou shalt not ….’ However, if I consider myself as part of the world and as a participant in human relations and interactions then, because of my interdependence, I can only tell to myself how to think and to act: “I shall ...”, “I shall not ....” (von Foerster, 1994)

If we understand what von Foerster is saying here, then, the question of the nature of human consciousness (of which we are as conscious or unconscious human beings) and how we come to make decisions and act, given our condition as both interdependent and autonomous human beings, becomes very important related to our understanding of ethics.

If it is like that we are as part of the world and as a participant in human relations and interactions, then, how can we best do good decisions in complex environment? Research
shows that vigilant decision-making processes are superior to hypervigilant decision-making processes under experimental conditions (Keinan, 1987; Baradell & Klein, 1993). Vigilant processes are the familiar sensible, logical and rational approach to problems characterised by a systematic, organised information search before re-examination and review of data before making a decision (Tasa, 2002).

However, decisions are for sure not taken in controlled conditions in this complexity. In more naturalistic tasks, Johnston, Driskell, and Salas (1997) found that a hypervigilant strategy was significantly more effective than a vigilant strategy under both normal and high-stress conditions. Therefore, as we know from the “open system theory”, in complex systems, the output of decision making is also a source of input to the system. This should mean that the emotional and personal elements of decision-making processes should be considered with mindfulness and wisdom.

Higgins (2000) means that “when people experience a “good fit” between a personal goal and their own self-regulatory style, they are more likely to value activities in pursuit of the goal, and to report feeling alert, energised and good about what they have done.” “Feeling good” is something everybody wants and it should form the basis of a positive psychology where happiness and wellbeing are the desired outcomes. According to Veenhoven (2003) “happiness could be thought of as an outcome of life: the overall appreciation of one’s life as a whole.” This kind of thinking takes a life perspective on our decision-making. How can a particular decision make life meaningful?

Seligman (2003) suggests that “it depends on what kind of life you wish to lead” and comes with three definitions: A “pleasant life” is one that “successfully pursues the positive emotions about the present, past, and future”; the “good life” is “using your strengths and virtues to obtain abundant gratification in the main realms of life”, and; a “meaningful life” is “the use of your strengths and virtues in the service of something much bigger than you are”.

Making decisions “in the service of something much bigger than you are” is a fundamental characteristic of mindfulness and human wisdom, and as hypervigilant decision, an essential characteristic of executive decision making in enterprises of complex environment. But what is exactly wisdom?

Up by the times several conceptualisations of wisdom have been proposed. Kitchener and Brenner (1990) discuss wisdom from the reflective judgement model of adult cognitive development, suggesting four aspects or conditions for wisdom:
the presence of unavoidably difficult, “thorny” problems inherent in the lives of adults

- a comprehensive grasp of knowledge characterised by both breadth and depth
- a recognition that knowledge is uncertain and that it is not possible for truth to be absolutely knowable at any given time
- a willingness and exceptional ability to formulate sound, executable judgements in the face of this uncertainty (Kitchener and Brenner, 1990).

Arlin (1990) defines the features of wisdom in terms of questions rather than answers and according to him wisdom is characterised by six features:

1. the search for complementarity: discovery of overlap and agreement in what appear to be unrelated or contradictory phenomena
2. the detection of asymmetry: ability to notice relevant and often subtle features
3. openness to change: willingness to remain open to receive new information, and on the basis of that information to be willing to change one’s world-view
4. pushing the limits: formulation of problems in ways that will give direction and meaning to the choices made, rather than close conformity to an acknowledged standard of right or wrong
5. a taste for problems of fundamental importance: strong conviction about what matters most
6. preference for certain conceptual moves: such as “active experimentation”, or “discovery-oriented behaviour” (Arlin, 1990).

Sternberg (1990) uses the notion of wisdom-as-knowledge to distinguish between intelligence, creativity and wisdom. He emphasises the role of tacit knowledge, which he sees as a kind of action-oriented knowledge - a form of “knowing how” rather than “knowing that” - which is indirectly acquired and not domain-specific (Sternberg, 1998). Baltes and Kunzmann (2003) define wisdom as “expert knowledge and judgment about important, difficult and uncertain questions associated with the meaning and conduct of life”.

The “Berlin wisdom paradigm” of Baltes and colleagues (Baltes, Glück, & Kunzmann, 2002) proceeds from the philosophical and cultural-anthropological concepts of wisdom to place these into the context of psychological theory and methods. They used
standardised procedures to collect “think-aloud” responses and trained raters evaluate responses according to five criteria thought to define wisdom-related knowledge:

1. **factual knowledge**: includes topics such as human nature, lifelong development, interpersonal relations, social norms, and individual differences in development and outcomes

2. **procedural knowledge**: comprises strategies and heuristics for dealing with life problems (e.g., the structuring and weighing of life goals, ways to handle conflict, or alternative back-up strategies)

3. **lifespan conceptualisation**: refers to knowledge about the many different themes and contexts of human life, their interrelationships, and cultural variations

4. **value relativism and tolerance**: refers to the acknowledgement of individual and cultural differences in values, with an explicit interest in achieving a balance between individual and collective interests and a focus on human values

5. **recognition and management of uncertainty**: refers to knowledge about the limitations of information processing by humans and about the low predictability of occurrences and consequences in human life, but also about ways to deal with such uncertainties (Baltes, Glück, & Kunzmann, 2002).

According to Staudinger and colleagues (1997, 2003) wisdom has been found to have psychometric properties which overlap with measures of intelligence, personality and their interface, yet possess distinctly different characteristics (Staudinger, Lopez, & Baltes, 1997; Webster, 2003).

However, most adults are not wise according to Webb (2004). He says that “only some people have access to and acquire knowledge about the conduct and meaning of life that comes close to wisdom, and age is a necessary, but not a sufficient condition for wisdom” (Webb, 2004). Baltes et al. (2002) found that “wisdom-related knowledge increases sharply during adolescence and young adulthood, but, on average, remains relatively stable during middle adulthood and young old age. Peak performances seemed to be more likely in the 50–60 age group, and professional specialisation was found to be the strongest predictor.”

According to Sternberg (1998), “executive managers must learn to apply both tacit and technical knowledge, mediated by values, toward the goal of achieving a common good.” For Webb this requires finding a balance among competing interpersonal, intrapersonal and extrapersonal interests, and the capacity to adapt to the existing environmental contexts, or
finding a way of shaping them, or selecting new ones, over both the short and long (Webb, 2004).

If we consider ourselves as part of the world, these definitions suggest that the emotional and personal elements of decision-making processes should be considered with mindfulness and wisdom in our thinking related to ethics. The definitions also do seem to fit the challenges of difficult life decisions with no right answers faced by decision-makers in complex environment. However, this raises an important question. Can wisdom or mindfulness be transferred?

Martin (2002) believe that coaching may be hype now because its time for a different approach to leadership. “Up until recently, concerns about performance were addressed from the perspective of behaviour modification, with control as the underlying assumption. Current models of coaching, in contrast, are based on reflection and insight” (Martin, 2002).

Kilburg (2000) suggests that “coaching, at the highest level, not only develops reflection and insight, but also facilitates the emergence of wisdom.” Are wisdom and mindfulness necessary attributes for managers to successfully behave ethical and tolerate complexity and uncertainty? And if so, is coaching a valid intervention for promoting mindfulness and wisdom in organizations?

4.3 Coaching as a Tool for Mindfulness and Wisdom

According to executive coaches Stratford Sherman & Alyssa Freas (2004), coaching “helps people to know themselves better, live more consciously, and contribute more richly”. They say “at the most basic level, coaches serve as outsourced suppliers of candor, providing individual leaders with the objective feedback necessary to nourish their growth”. Coaching “provides a space for profound personal development”, writes executive coach Suzy Wales (2003), and “enables managers to understand how to translate personal insights into improved effectiveness and ultimately organisational development”. According to Richard Kilburg (1996), Executive Coaching Psychologist and Senior Director of Human Services at Johns Hopkins University, executive coaching is defined as:

“A helping relationship formed between a client who has managerial authority and responsibility in an organization and a consultant who uses a wide variety of behavioral techniques and methods to help the client achieve a mutually identified set of goals to improve
his or her professional performance and personal satisfaction and, consequently, to improve the effectiveness of the client’s organization within a formally defined coaching agreement”.

Kilburg (2000) suggests the coaching process is a kind of “circle of awareness” (figure 5) within which the coach engages the client in a series of single-loop, double-loop, and triple-loop learning experiences to “assist the client to understand the nature of the current organisational environment, the leadership situation, and his or her experiences with it”:

- **Learning in action**: The ability to be self-aware as the client is performing a task.
- **Reflection on learning in action**: The ability to be aware of different ways to approach a task and how to modify approaches as the task is being performed.
- **Reflection on reflection on learning in action**: The ability of the client to be aware of multiple levels of complexity, paradoxes, and polarities in the situation with the intent of learning how to better perform in the future (Kilburg, 2000).

![Figure 5: Kilburg’s (2000) “circle of awareness” process](image)

*Source Peter Webb, 2004.*
UK-based executive coach, Jenny Rogers (2004) elaborates six widely acknowledged principles within coaching:

1. **The client is resourceful**: Clients actually have within them the resources to resolve their problems.

2. **The coach’s role is to spring loose the client’s resourcefulness**: Unlike mentoring, the role of the coach is to use advice-giving judiciously. Advice-giving leads to dependency. “The coach’s role is to ask the penetrating questions which take the client into territory they have never previously considered”.

3. **Coaching addresses the whole person**: “Difficulties in the professional life of the client are usually paralleled by difficulties in the personal parts of their lives”.

4. **The client sets the agenda**: There is not necessarily a set agenda with coaching. “The agenda starts with the client”.

5. **The coach and the client are equals**: “The coach and the client work together in a partnership of equals”. The key attitude of the coach towards the client is one of nonjudgmental positive regard.

6. **Coaching is about change and action**: The role of the coach is to help clients achieve increased effectiveness. “It follows therefore that you cannot coach a client who does not want to change” (Rogers, 2004).

Rolf Haugen (2006) explains how to coach:

- Ask many questions, closed and open
- Be a active listener, “is it like that”, “say more about that”, “hm”
- Be a motivator and a encourager
- Give constructive feedback, know those who are managed so they know their manager
- Let colleagues learn of their experiences
- Build self-organization teams, where 2+2=5
- Lead all kind of meetings, projects, processes with dialogue
- Be placid, positive, including and humble

Now I have a better picture of what coaching is. But how shall I approach to coach for mindfulness and wisdom? Sternberg (2001a) has outlined a curriculum for use in schools,
teaching children not *what* to think, but rather *how* to think. There might be some overlap between wisdom, philosophy and creative thinking but according to Webb (2005), Sternberg’s curriculum seems applicable to managers in the context of executive coaching:

1. Explore with students the notion that conventional abilities and achievements are not enough for a satisfying life.
2. Demonstrate how wisdom is critical for a satisfying life.
3. Teach students the usefulness of interdependence.
4. Role-model wisdom (because what you do is more important than what you say).
5. Have students read about wise judgements.
6. Help students to recognise their own interests, those of other people and those of institutions.
7. Help students learn to balance their own interests, those of other people, and those of institutions.
8. Show students that the means, and not just the end, matter.
9. Help students learn the roles of adaptation, shaping, and selection, and how to balance them.
10. Encourage students to form, critique and integrate their own values in their thinking.
11. Encourage students to think *dialectically*, recognising that both questions and their answers evolve over time, and that the answer to an important life question can differ at different times in one’s life.
12. Show students the importance of *dialogical* thinking, whereby they understand interests and ideas from multiple points of view.
13. Teach students to search for the common good — a good where everyone wins.
14. Encourage and reward wisdom.
15. Teach students to monitor events in their lives and their own thought processes about these events.
16. Help students understand the importance of inoculating oneself against the pressures of unbalanced self-interest and small-group interest (Sternberg, 2001a).
Peter Webb (2005) say that “of particular relevance to executive coaching are the principles of dialogical thinking” (encouraging the thinker, i.e., the client, to understand problems from multiple points of view), and “dialectical thinking” (developing an understanding in the client that both questions and their answers evolve over time and can differ at different life stages).

According to Sternberg (2001) it is important with “reflective articulation, critique and integration of the client’s values into their thinking; and an emphasis on critical, creative and practical thinking, particularly on trying to reach the common good.” He mean that “the influence of a significant other in the teaching of wisdom through the importance of a role model”, but he might as well be referring to the role of a coach (Webb, 2004).

According to Peter Webb (2004), based on Sternberg’s (2001) wisdom curriculum and the Berlin wisdom paradigm (Baltes et al., 2002), it is possible to outline a set of coaching principles for enhancing wisdom in complexity:

1. Facilitate recognition and management of uncertainty.
2. Promote dialogical thinking.
3. Encourage dialectical thinking.
4. Stimulate the articulation, critique and integration of values into thinking.
5. Emphasise critical, creative and practical thinking in relation to the common good.
7. Activate mental representations of wisdom-related knowledge through guided imagination strategies.
8. Stimulate evaluative reflections.

In this way coaching seems to best be considered as a pre-eminent learning framework for inspiring leaders to apply mindfulness and wisdom in complex environment to achieve a common good in complex environment.

4.4 The Evolution of Minds in Coaching
As we know “normal” science literature has focused on the objective control of agents and the assumption that interactions can be described in linear terms. A contrasting view evolves from chaos and complexity theory. As Lissack and Gunz (1999) assert, “complexity theory
challenges the traditional management assumptions by noting that human activity allows for the possibility of emergent behaviour”. This is interesting if we remember the humanistic psychology approach to change, where the significance of the person as a whole entity (a holistic approach) in the sense that as humans we are not just what we think or what we feel, we are just our behaviors.

According to Ton Jörg (2004) learning through dialogic interaction has long been a topic in the fields of psychology and education without being understood very well. Interaction itself seems to be the problem he says. Coaching is a dialogic interaction. If we define interaction as a communicative human interaction (in Stacey, 2003), then we, according to Jörg have to open our eyes for “hitherto unknown generative mechanisms” (Bhaskar, 1986), such as mechanisms of self-generative growth and the generative dynamics implied by these mechanisms. These generative mechanisms which are linked with complex responses are fundamentally causal of nature and linked with the notion of time (Prigogine & Stengers, 1984).

In the complexity we are living in now we shall deal with the question ‘Why and how two minds can be better than one’ (Frawley, 1997). Communicative human interaction and the development of mind and its inherent complexity should be described as “the adventures of a couple of (micro) evolution of two minds evolving in their interaction” (Starobinski, 2003). This adventure, encompassing both evolution, involution, and revolution, may lead us along unfamiliar paths (cf. Keynes, 1936). It may lead to descriptions of nonlinear, so-called “loxodromic” paths in an n-dimensional (hyper-) space, and even of dynamic ‘mindscapes’ (Jörg, 2004); of complex, multi-dimensional minds evolving dynamically in time (Globus, 1995). One may say, with Zilsel, that Darwin fundamentally changed our view of reality by liquefying reality, by replacing “to be” by “to become” (Zilsel, 2000). This phenomenon of liquefying reality may be illustrated by the sketch of the Dutch artist M.C. Escher “Metamorphosis” in figure 6 below.

Figure 6: Metamorphosis II
For now we may say that we complexify reality, in terms of thinking in complexity (Mainzer, 2004). By taking interaction of two minds as ego and alter in interaction (Baldwin, 2004), and their complex dynamic interweaving as a starting point of learning and development, of minds in their complex affective and cognitive evolution, this new pedagogy may be described as a real “humanistic pedagogy” (Jörg, 2004). It becomes humanistic by focusing on minds in their evolution, as socially constructing each other: as co-constructing each other, in and through interaction in time (Luhmann & Schorr, 2000). This kind of development through interaction can be illustrated by the drawing of M.C. Escher, in figure 7 below.

The drawing may be described as a ‘cyclical-helical unity’ (Valsiner, 1998), for both elements involved in the dynamics. According to Jörg it shows “a nice symmetry of two ‘whirls’ developing, with the implication of time. It shows the spiral of development: both as evolution by going from the inside to the outside, and as involution, by going from the outside to the inside” (Jörg, 2004).

![Figure 7: Sketch of M.C. Escher’s ‘Whirlpools’ as connecting dynamic ‘loxodromic’ paths through interaction](image)

The mechanism involved is a mechanism of self-enhancement, of autocausality in an autocatalytic loop (Koneko, 2004), via a process of reciprocal interaction with the other person involved in that interaction, leading to self-reinforcing processes with non-linear enhancement-effects (Long, 1987). Jörg says that “interestingly it is not time itself, but significant (basically humanly experienced or interpreted) events exerting influence and impelling force on the partner in interaction”. It is similar to (fundamentally human) forces of interpenetration (see Luhmann, 1986; Lewontin, 1982; see also Starobinski, 2003). It offers a very promising view of humanizing determinism in reciprocally influencing one another in
time (Jörg, 2004). One may describe the trajectory of non-linear development of the partners in human interaction in their interactive relationship (Starobinski, 2003) as a result of drawing energy from one’s neighbour (partner) in that interaction (cf. Calvert, 1999, on so-called ‘Tandem Learning’).

Now we start to understand what coaching is about, its a process which explore the role of reciprocal or circular causality (Minsky, 1988), or of recursive causality within an ensemble (Morin, 1992), as a process “in which the products or final effects generate their own new beginning”, like in autocatalytic reactions (Lotman, 1990), also to be viewed as an autocatalytic loop (Koneko, 2004). Such a process can be nicely illustrated by the work of Escher’s drawing of “Hands”, in figure 8 below.

Figure 8: Escher’s drawing of “Hands”

This shows the fundamental significance of the role of the other for the adaptive process of each of the partners in the interaction, followed we can confirm Vygotsky’s adage: “It is through others that we develop into ourselves” (Vygotsky, 1981). It is this promising complexity of interaction with its generativity which may account for the truth of the expression that, “in a real sense, two minds are better than one” (Frawley, 1997). It is the dynamic ensemble of two persons, of their communicative human interaction, which forms the unity, like in the sketch of Escher’s “Whirlpools” above (figure 7). A dynamic unity which has no real separate inside and outside, but represents only one united path of development, like in the figure of Escher of the “Möbius Strip”, in figure 9 below. (The ants seem to be at different sides of the path; in reality they are at the very same path).
According to Rose (1997) one may express the process from the perspective of one of the partners in dynamic process of interweaving as being both the weaver and the pattern this person weaves in the process of social interaction. The old adage of Comenius gives meaning here: “He who teaches, he teaches himself.” In this dynamics the causality and finality of the process has been combined into one continuum (see Thom, 1975). According to Holquist (1997) it is the other functioning as a context for meaning and sense making within a common context of that very process, which may lead to a dynamic process of evolving understanding: to meaning as a product (see Holquist, 1997). The self and the other not in binary opposition but as a unity on a single plane (cf. Holquist, 1997): like the single path of the Möbius strip.

Now I understand that it’s through social interaction that we become one. Also do I know have a much better understand that coaching can offer more to the workplace than just a transfer-of-training tool (Olivero, Bane, & Kopelman, 1997), or a way to facilitate constructive-developmental thinking (Laske, 1999), or shift leadership style (Kampa-Kokesch, 2002). Coaching is a powerful tool in complex environment to achieve a common good among the partners.

### 4.5 Beyond Egoistic Individualism: The Absolute Unitary Being

As we remember from the system thinking and living systems – organisms, parts of organisms, and all communities of organisms – had led scientists to the same new way of thinking in terms of connectedness, relationships and context. Also within the framework of chaordic system thinking did we become aware that everything is connected at some point,
even though the connection may be infinitesimally small, and this connectivity is strengthened through interaction (Fitzgerald & Eijnatten, 2002a).

In 1991 Varela and colleagues urged cognitive scientists to reflect on human experience by learning from other traditions, such as Buddhism, which challenges the notion of the ego by juxtaposing it with the notion of no self. They contended:

We believe that the Buddhist doctrines of no-self and of non-dualism that grew out of this method (mindfulness meditation) have a significant contribution to make in a dialogue with cognitive science: (1) The no-self doctrine contributes to understanding the fragmentation of self portrayed in cognitivism and connectionism. (2) Buddhism non-dualism particularly as it is presented in the Madhyamika (which literally means “middle way”) philosophy of Nagarjuna, may be juxtaposed with the entre-deux of Merleau-Ponty and with the more recent ideas of cognition as enaction (Varela, Thompson, Rosch, 1991).

Burke (2002) said that “cognition, or the process of knowing, can be understood only in terms of the living system’s interaction with its environment. Living systems does not react to everything in its environment, but rather, selects. This is because each living system is distinct with its own mode of environmental interaction.” If we understand what Varela and Burke are saying here, this is to say that we, the human beings, self choose to connect with the environment or not.

In the field of neurotheology, a new discipline that considers theology from a neuroscience perspective is interesting in this context. Neurotheology seeks to explain religious experience from the functions of the brain, based on the notion that there is a direct relationship between the brain and the experience. I am particularly interested in the work of Newburg (2002) and his colleagues’ notion of Absolute Unitary Being (AUB) as a state of pure awareness. This was experienced by both mystics during their prayers and Buddhist monks during meditation and provides us with insights on the nature of human consciousness and its relation to religious or spiritual experiences. According to Newberg (2002) both monks and nuns reported undergoing an intense experience that also involved the feeling of oneness with the universe, after prolonged prayer and meditation. They also explained how one comes to experience this transcendental state from the brain function perspective. According to Mgombelo (2006) the areas that are involved in religious experience include some of the oldest parts of the brain, such as the limbic system, as well as the areas connected
to the autonomic nervous system and to the neocortical areas involved with goal and orientation behaviour. Goleman (1998) pointed out that emotional intelligence is born largely in the neurotransmitters of the brain’s limbic system, which governs feelings, impulses, and drives.

Newberg (2002) and his colleagues proposed that the sense of union experienced by nuns and monks during their peak moments in prayer and meditation, a sense that is also shared by mystics, occurs when some brain areas become activated while other brain areas become deafferented (i.e., cut off from their normal source of neural input). At the same time, the brain areas associated with emotions undergo various patterns of activity.

While different parts of the brain are essential for Newberg et al.’s explanation of religious experience, it is “the orientation association area – the part of the brain that helps us distinguish the self from the rest of the world and orients that self in space” (Newburg et al., 2002) that I believe Varela understood with the connectionism that we autonomous human beings can select to interact with in the environment.

According to Mgombelo (2006) the authors locate the orientation association area in the posterior superior parietal lobule of the brain. They suggest that when the right hemisphere’s orientation association area gets completely cut off from its normal neural input, an experience of pure space occurs. When the left hemisphere’s orientation area is cut off, a softening of a sense of self or selfless is experienced. These two effects, when combined with the patterns of activity occurring on those parts of the brain associated with emotions, results in the subjects’ (in this case nuns or monks) attainment of a state of transcendence or absolute union, which Newberg (2002) call the Absolute Unitary Being (AUB).

“The transcendent state we call Absolute Unitary being, refers to a state of pure awareness, a clear and vivid consciousness of no-thing – yet it is also a sudden, vivid consciousness of everything as undifferentiated whole” (Newburg, 2002).

As Newberg and his colleagues noted, “mystical experience is not as strange as it seems and the first step in understanding its nature is to realize that it happens to all of us, all the time” (Newburg et al., 2002). I have just the same perception; meditation is not more mystical than a break from the chaos of our mind (cognitions) to feel refreshed and balanced in our mind or “the process of life” according to Capra (1996). After some time of practice everyone can be able to find what Newburg (2002) calls “the mysterious connection of human consciousness and the persistent and peculiarly human longing to connect with something larger than
ourselves”. This connection is very nice and the feeling is like one is with everything and nothing at once. The connection time (if able to be connected during the meditation), can range from few seconds until more than one hour based on own experiences. As Goleman (1998) emphasized; building one’s emotional intelligence couldn’t happen without sincere desire and concerted effort. He told us to break old habits and establish new ones.

An interesting question appears then; “How aware are we human of ourselves who lives on the world of the year 2007 AC?” For example, do you have an understanding of yourself as a mindful person? Do you identify yourself with the theory so far in this dissertation? If so, I will say that you are a mindful and wise person who has a healthy behavior and I am sure that you will live very long! Anyway, take a look at this:

Vipassana meditation in the tradition of Sayagyi U Ba Khin is usually taught in the context of a course of ten days duration. Before learning insight meditation one must first develop sufficient mental concentration. This is done by focusing the attention on the small area of skin below the nostrils and above the upper lip, becoming aware of the touch of the breath as it comes in and goes out. Whenever discursive thoughts arise one simply returns attention to the sensation of the breath entering and leaving the body. When this is done for twelve hours per day over three or four days, it is possible to develop an increasingly focused, subtle and penetrating degree of concentration, to the extent that one becomes aware of tiny and subtle sensations that might not be noticed in an everyday state of awareness (Solomon, 2006).

How aware are you of yourself now after reading this? At least I will admit that I have a way to go. For me its 100% clear that we, the human being, living on the world today are not much conscious aware our own behavior. Also do I now have a much better understanding of what Goleman meant with that it took a lot of effort and desire to building one’s emotional intelligence.

I will use a metaphor to explain the outcome of daily practices of meditation. If we look at our mind as the ocean with all its waves and the waves as the thoughts. Like the continuality of the waves on the ocean, the thoughts are continually coming into our mind, they never stop (on average we have about 60 000 thoughts each day). Daily practice of meditation makes the distance between the thoughts bigger. Like the waves on the ocean are smaller and comes with bigger distance when the weather is calmer. Making this distance longer takes the mind more in the present moment. The result is that the mind act more non-
judgementally and we become more aware of ours senses and ourselves. This is especially important now with the speed we are running in of this complexity of chaos, and was according to Garvey & Alred (2001) essential to “learn in complex environments”.

4.6 The Anguish of the Executive Life

In May this year there was an article in a Brazilian management magazine (ÉPOCA NEGÓCIOS) about “The anguish of the executive life”. Psychologist Betania Tanure and her colleagues have interviewed 263 presidents, vices-president and directors of great national companies in Brazil. Others 965 high executives have answered to an extensive questionnaire. The survey more than enclosed a thousand executives of approximately 350 companies and is the most complete study on the corporative world in Brazil. Of the study, a preoccupying picture emerged. It follows:

> 84% of the executives are unhappy at work.
> 76% of them receive work emails off the working hours.
> 58% finds that the spouses are grumblers with the extreme rhythm of work of them.
> 55% lives deeply a radical change at work.
> 54% is unsatisfied with the dedicated time to the personal life.
> 35% points problems with the head as the crisis excellent of its lives.

If the attributes in the offices had become a source of anguish for the high executives, what can make them happier? More money, success and power certainly are not the reply according to Betania. For the American psychologist Jonathan Haidt, professor of the University of Virginia and author of the bestseller “The Happiness Hypothesis”, the secret is exactly in the balance of material well-being and the spiritual. According to him, it is necessary to be part of something, to have an intention (nor that it is to go up in the career), but at the same time to look inside of oneself and the people in lathe. Also Lane and Klenke (2004) found that spirituality potentially contributes to general uncertainty management. So what is spirituality?

Senge (1990) in discussing the learning organization hints “at its spiritual foundation as the sixth discipline, leaving the reader wondering how it can manifest itself.” Mirvis (1997) noted that “religion is about answers whereas spirituality is about questions.” As we remember, Arlin (1990) defined the features of wisdom in terms of questions rather than answers. On the other hand, Snyder (2002) note that whereas many spiritual goals are
ambiguous, wide in scope and require a lifetime of pursuit; moreover, they may never be accomplished in the their fullest sense (e.g., spiritual goals like the purpose of life, gaining supernatural assistance in living, peace, etc.), higher order spirituality schema like faith and hope assist in managing this uncertainty.

So people who work a lot love probably what they are doing, but in the end there is some kind of unhappiness and emptiness. There might be a missing balance and maybe spirituality can help. An example could be Arne Næs jr, a famous Norwegian business man and mountain climber. When he reached the top of Mount Everest, he didn’t feel happiness, but emptiness, because there were no higher mountains in the world. This is just what Maslow (1970) observed, that “people continued to search for something else once all their needs were being satisfied.” Maybe this something else cannot be found if one believes that one is separate from the world. Maybe the final need in the hierarchy of Maslow – the need for self-actualization – “the desire to become more and more what one is, to become everything that one is capable of becoming”, maybe its not possible to reach this level of oneself, if we not consider the smiling Buddhist monks appeal to look inside ourselves for happiness and growth?

This bring us to the human consciousness and the notion of autopoiesis of Varela and that “living things are characterized by an organization in which their only product is themselves (self-producing), with no separation between producer and product.” This can be seen in the following organization model:

![Transformation Process Diagram](image)

*Source: Falletta, Salvatore V (2005).*

For me this model shows a cell in the living system of Varela’s autopoiesis and therefore a model of the human being or an organism. Also could this model be a model of the mind as
an emergent property. Then Varela (1996) would say that “the very important and interesting consequence of this emergent property is our own sense of self,” and the monk would say: well, then you have to be aware of your “Transformation Process”.

So if we see this model as a cell in the autopoietic system, as a process “in which the products or final effects generate their own new beginning”, like in autocatalytic reactions (Lotman, 1990), also to be viewed as an autocatalytic loop (Koneko, 2004), or like the work of Escher’s drawing of “Hands” (Figure 8 section 4.4). If we see this model like this cell, what is the most important to consider then, the output or input?

Let’s reflect over this within an autopoietic system. Let’s go back to Arne Næss jr. Ironically, he died 67 years old on one of his climbing adventures, climbing alone without any kind of safety equipment. He was acting daredevil. He was acting with a parasuicidal behavior which the treatment of this behavior within Dialectical Behavior Therapy is to learn four sets of important skills – Mindfulness, Interpersonal Effectiveness, Emotion Regulation, and Distress Tolerance. This we now know that is to improve our awareness. The most important of the overall goals in DBT is helping clients create “lives worth living,” but even if they have the lives they wanted, they may feel somewhat empty or incomplete. According to Sanderson (2003) some people refer to this as “spiritual dryness” or “an empty feeling inside.” Næss was according to the theory not aware of this. Because if he was, I think he rather would meditate on the top of Mount Everest with a happy smile in his face.

Outside of Norway Arne Næss jr may have been more known for being the former husband of Diana Ross. He is the father of seven children with three different womans. In a television interview one of his children claimed him to not be a good father. In other words, related to the model, he didn’t take care of his output. Maybe his death is not so ironically anyway, considering his behavior related to his outcome in an autopoietic system, where the components of organisms exist to serve the larger whole?

Let’s go back to the article of “The anguish of the executive life”. One of the main factors that lead to the misfortune, as evidenced Betania Tanure in her study, is exactly the impossibility of the executives, ahead of what the companies demand of them, to live an intense relationship with the family. “The work is today the place of the admiration, while in the house he is transforming into the space of guilt and debt”, the psychologist Vicky Block says, council member of executives. “When you enter the workstation, he knows accurately what he has to do, mathematic at home is something else”, says Alfonso Celso de Barros Santos, president of the Avis landlord of Brazil. Alfonso says that he stresses himself for being too little with the children; “I fear that the time limited to the children can have a
negative impact in the future of them,” and here is the key to understand the model in an autopoietic system.

It’s our own behavior related to the output, which makes contribution to the input to the emergent property and common good. *It’s a process in which the products or final effects generate their own new beginning all the time, in every moment, forever, until its dead.* All organizations die. The world will probably also. To take this further in an autopoietic system, it’s the world that has cancer; and it’s the inconsistently acting human beings who are the cancer-cells.

### 4.7 Self-Organizing

Once again let us reflect over the notion of Varela’s autopoiesis. This time related to the Indian religions concept of Karma that goes back about 800 years before Christ. Consider this from Wikipedia: “Karma (Sanskrit: kárma, kárman- "act, action, performance"; Pali: kamma) is the concept of "action" or "deed" in Indian religions understood as denoting the entire cycle of cause and effect described in Hindu, Jain, Sikh and Buddhist philosophies. The concept can be traced back to the 8th century BC.

The explanation of karma can differ per tradition. Usually it is believed to be a sum of all that an individual has done, is currently doing and will do. The results "fruits" of actions are called karma-phala. Karma is not about retribution, vengeance, punishment or reward; karma simply deals with what is. The effects of all actions actively create past, present and future experiences, thus making one responsible for one's own life, and the pain and joy it brings to others. In religions that incorporate reincarnation, karma extends through one's present life and all past and future lives as well. *It is cumulative.*

This is exactly that comes into the scientific theory now in the beginning of the 21th century AC. As we remember from the chaordic system theory and the *non-linearity* of cause and effect, suggesting that every event is the result of the *accumulation of all prior events*, not just one. Karma in other words; you get what you give! Than it’s important to consider the output to get the best input as again will result to the best output. It’s a loop. But how can it be like this?

Because of property number two of the chaordic system, connectivity, *everything is connected* at some point, even though the connection may be infinitesimally small, and this connectivity is strengthened through *interaction*. This saw the Indian religions long time ago and is what we now understand as self-organization. We remember self-organization as the
process in which local interaction between agents produces emergent global patterns. Also do we know within an autopoietic system that humans can choose to interact or. Let’s see all this in a bigger picture. Widely accepted scientific evidence indicates that the Earth was formed around 4.57 billion years ago, dinosaurs dominated the terrestrial ecosystems for over 200 million years ago, yoga and meditation from the East goes more than 7000 thousand years back, Jesus Christ was here just about 2000 thousands years ago, 500 years ago Christopher Columbus discovered America (of course after the Vikings ;-) ), the globalization process started about 200 years ago, the oil industry is about 100 years, and, the climate change starts to be taken responsibly these days. The world has never been static! But the speed of change we experience today can mostly be dedicated to technology and the mundialization process and the interactions among human beings across the world.

While globalization is concerned with economic results, mundialization involves the extrapolation of results and the analysis of the consequences. The Oritz study (1996) includes some very interesting notions; the discourse of globalization is universalistic, contrasting with the practice of exclusion which classifies individual or groups hierarchically rather than by category; the discourse of mundialization is multicultural; it seeks to preserve the “peculiarity” in search of the “commonality”. It is the practice which Merleau-Ponty (1971) understands as “to participate in the one without dividing it”. This means that we are on our road to become one world without frontiers. Jesus was clearly not aware of this, when he said: “You shall not have another God than me”, and by saying this, he is not better than any other of ours big religion heroes. But in the same token; “Buddhism is not a religion with a God” (Solomon, 2006).

What I am trying to bring into this interpretation, is what Webb (2004) said was of particular relevance to coaching; dialectical thinking (developing an understanding in the client that both questions and their answers evolve over time and can differ at different life stages). What I am trying to say, is that we, the human beings, have just started to know each other. With this I mean that the mundialization process has just started and I am talking about the last 25-50 years with a huge increase of speed the latest fifteen years. Historians will argue that people have been traveling around the world for centuries, and that’s true, but far away with the intensity and by so much people as now. So what happens when people travel around the world and meet other people and learn other cultures to know? They are exposed of a cultural shock which gives opportunity for learning from the experience and for transforming shock happenings into episodes which add value to one's life. Such episodes provide the opportunity to learn about oneself and about others through the search of cross-cultural
understanding (Valderez F. Fraga, 1999). And this is important, because by adapting other culture’s values, norms and behavior the individual grows and gets a bigger perspective of itself and the world. This might help us to understand the enculturation process and why the religion heroes not were able to alter their ego and say that other enlightened people like them, also was good, even if they had different values. They knew to little about the world and had not seen and met enough people from different cultures to interact with. Keynes (1936) words gives meaning in this context: “It is astonishing what foolish things one can temporarily believe if one thinks too long alone”. That is true for human beings, organizations and nations.

Now we start to know better. According to Flynn (1987, 1998) IQs have been rising roughly at a rate of 9 points per generation (thirty years). This increase has been going on for at least several generations (see also Neisser 1998). This witness the reviewed complexity theory and science about. Now is the world in the phase of the self-organization process that the sciences take the Eastern wisdom into account and apply it within the Western knowledge. This interaction is a result of social interaction. And in an autopoietic system also what Valera means with self-organizing, it creates itself in the very moment again and again. So as an outcome of self-organization, has itself created this interaction between Vest and East to the outcome, as maybe, is the start to “the balance” the world has been waiting for a long time.

Now, the managerial theory tells us, that the goal is to achieve a common good, mediated by values (Sternberg, 1998). Then we have to be aware of others peoples value also. As we saw from the cognitive psychology, it’s through ours self-conception and values we behave and make results. To be able to this, as we have seen, interacting with other human beings and cultures makes us aware of ourselves and other, as again teach us to increase our emotional intelligence and become aware of our self-regulation to reach a common good.

If we are going to reach Maslow’s level of self-actualisation, we need to be able to control self-directed learning, as Boyatzis (2001) defines as “the learning agenda which arises out of a perceived gap between the ideal self and the current reality.” This was according to Garvey & Alred (2001) essential to “learning in complex environments where the development of reflective skills and metacognitions are important.” Then we are back again to Varela’s understanding of cognitivism and connectionism. I have become quite sure about that meditation is the right path to get a better understanding of oneself and become more aware of own behavior in complex environment.
4.8 Dialogue and Systems Intelligence: A Work Philosophy

Over the past ten years something called “Dialogue” has been recommended by organizational theoreticians and introduced in organizations for various purposes. Dialogue is the systems thinking variant of the learning organization (Senge, 1990; Senge et al., 1994), the knowledge creating company (Nonaka and Takeuchi, 1995), and the notion of corporate culture (Schein, 1999). Sebastian Slotte is a Finnish philosopher by education. He works with dialogue in education, conflict management and organizations and has written extensively dialogue. He says that the core idea of dialogue is to enhance human systems, be that, an organization, a team, or a family to recollect, create and strengthen its fundamental values. Dialogue, as real world practice has previously been presented as the basis for real human encounter (Buber 1947), as a way to deepen communication and understanding in human systems (Bohm 1992, 1996), as way to enhance team-working (Senge 1990, 1994, Isaacs 1999), as a method for democratic community building and education (Freire 1972) and generally as a pragmatic way of systemic intervention according to Slotte (2004).

Dialogue seems to fit the second property of a chaordic system, consciousness, the presence of both a personal consciousness and an organisational consciousness (suggesting that executive managers need an appreciation for the intangible “within” of a system in order to create sustainable organisations) (Fitzgerald & Eijnatten, 2002). Dialogue is way to enhance systems intelligence and is referring to a) a method to enrich and improve human encounters by increasing creativity, commitment, energy and motivation. b) a personal philosophy and attitude to engage with other human beings.

Systems intelligence recognizes subjective relationality with the systems it studies. A Systems intelligent individual is said to “perceive himself as a part of the human system he is interacting with and recognizes her influence on the system and the systems influence upon her” (Saarinen et al. 2004). Sensitivity to the system allows the systems intelligent individual to act intelligently in the given system. Slotte (2004) explains that “when all individuals in a given human system perceive themselves as part of the system and the possibilities to act creatively in a systemic context, rather than acting as isolated individuals, a synergetic effect takes place.” Instead of diminishing their own or others capacity and capability they enhance them (Saarinen, 2004).

The pathway to dialogue is the realization that humans are relational creatures. According to Buber (1947) relationality takes place in “the space between”. According to Slotte (2004):
Relationality and the “space between” is not just something one might choose or wish to engage in; it exists independently of any particular action when two human beings meet. The “space between” is not observable in space and time as the single individual and the collective, but is re-constituted in every accidental and inevitable meeting between man and man. The ontology, i.e. the reality of human existence is therefore systemic, in the systems theoretic sense of the word. A human system and its nature are neither comprised of the sum of the individuals engaged in it, nor the individuals determined by the collective. The “space between” is the realm which two or more people can develop and nourish consciously if they set aside the prejudices that thought or ideas only can be communicated from an individual to another or that rules and forces external to these to individuals must determine what is spoken. The space between is a sort of common logos or reason where multiple voices create and work on single ideas. It is the playground for encounter. The nature of a system comprising of two individuals is not only determined by the nature, attitude, values, and mindset of the two individuals. The relation itself determines the presence of what attitudes, values and mindset are present, created and communicated. The relation also affects the continuity and changes of attitudes, values and mindset of the individuals. Dialogue takes place when people act with this relation in mind. When recognizing that the nature of human beings are determined by relationality and “the space between”, it is possible to engage in dialogue. To engage in dialogue is to fully engage oneself in that relation in every particular situation. A trustful turning towards the other is what is needed for dialogue to come true. Without a trustful engagement with the other, a turning towards dialogue is impossible. Dialogue is not first and foremost a detached presentation of ones ideas or a detached inquiry into others ideas. Dialogue is communication with. (Slotte, 2004).

As a form of systemic intervention dialogue aims at providing an alternative conversational pattern, changing the way of interaction in human systems, and strengthening people´s capability to thinking together and thus fostering: Dialogue is first and foremost a practice not a theory (Slotte, 2004). “The talk about dialogue takes from men the experience of dialogical life. These dialogical dialecticians do not seem to notice that the dialogic is essentially a way. However, the way is there that one may walk on it” (Buber, 1955).

Participants in dialogue are not merely observing the others and their points of view, but recognize that they are observing with the other participants and with their points of view. The focus then, becomes not to reach a pre-established goal in harmony with existing modes of thought, but also to challenge existing modes of thought in an intelligent and creative way.
and with sensitivity to the system one is engaged in. As a general philosophy of work
Dialogue enhances

- Shared values
- Creativity
- Synergy
- Commitment
- Systems Thinking
- Systems Intelligence
- Emotional Intelligence
- Motivation
- Emotional Energy
- Results
- The good life

When I look at these nice words, what comes up in my mind is wisdom of complex
environment. I feel that these words are like a red line through this paper so far.

According to Slotte (2004) “dialogue as a philosophy of work rests on the relational
count of human systems and that the importance of the relational aspects of dialogue
cannot be emphasized strongly enough. Dialogue becomes first and foremost a way to engage
in every situation of life.” In organizations the interest in dialogue and its transformative
power comes from research that have shown why and how improved and deep communication
on fundamental question affect organizations and teams in a positive way (Janis 1982, Senge
1991, Peters 1997, Goleman 1983). In the end, people understand and know after experiences,
but we have to remember that “an engagement in philosophical thinking on everyday matters
is prerequisite for people and organizations to change” (Senge, 1991).
5.0 Conclusion

I believe that coaching has come to stay for a good while. In today’s complex environment people need some from outside the organization to talk to, not only about the professional life, but all kind of thorny life questions. Maybe it is like that we have the most answers to our question inside us, but sometimes we need some to criticize our own view so we can reflect to get action. In this setting it is important to remember that we are different and have different values. We always bring our own perspective of life to the process and this can be different from the clients. Therefore I need to be aware my own worldview and reframe and set me in the client’s background and personality to be able to recognize racial bias and keep it out of the coaching process.

To make people more aware of themselves so they change their behavior, they need to understand that they were born to add value to this world, and to become the highest level in Maslow’s hierarchy. People need to learn that what we think about, we bring about. We need to understand that our life is a physical manifestation of our thoughts going on in our head. Therefore we must monitor our thoughts. This can most easily be done through our feelings. Are we feeling good or not? If not, well we have to change our thinking, because it’s not healthy for us not to feel good. We will have healthy emotions like that comes from excitement, joy, graduate and love. When we celebrate good feelings more good feelings emerges. This comes from attractors in phase space. If we go around and are worried and feeling threaten we attracts more bad thoughts. Remember the organization model, it’s a loop. Our feelings are feedback to us if we are thinking good or not.

Most of the leaders in the past didn’t know about this and therefore missed a great part of the “good life” which is empowering and sharing with others. Now can be the best time to ever live in the history. If we are aware our feelings we can attract whatever what is good for us. Our future has unbounded potential, unbounded possibilities, when people learn to monitor their thoughts and use their emotional potential. We really need to know what we want to do on this earth and then believe and feel that we already have received this. Then we just have to wait and the life process takes care of the rest. Most of the time we don’t see the things that we request and we starts to be frustrated and disappointed, and we become doubtful about ourselves. The doubt brings about a feeling of disappointment and this brings more negative feelings and we will never receive what we request. This is because of the loop and your behavior to the outcome which is the new beginning to the income. Be aware of this.
Through the whole dissertation is it one word that is essential, and that is awareness. We have to be much more aware of ourselves, as individuals and the collective. Meditation is a tool for this, but I need to be remember that we are different and understand that everybody don’t have a holistic worldview. Affirmations are a very strong tool to self-directed learning, because the mind can not distinguish about what is right or wrong. Affirmations can then in a very positive way help to decrease the gap between the ideal self and the current reality. Positive affirmations that create good emotions will be our future, because whatever we are feeling today creates our future.

One thing is for sure, complex environment need more knowledge and competence than we once were used to. Understanding the nature of “deep ecology” and the “three criteria for life” is a good start. When we see this, it is easier for people to act in harmony with the world, the nature and the environment. In this setting, it is important that the coach act as a role model of wisdom. Or in Gandhi’s words; “You must be the change you want to see in the world!”
6.0 Bibliography

Argyris, Chris. *Teaching smart people how to learn.* 1991


Carroll, J S & Rudolph, J W. *Design of high reliability organization in health care.* Accepted for publication 25 August 2006


Hall, Charles (Lead Author); Judith S. Weis (Topic Editor). "Ecology." In: Encyclopedia of Earth. 2007


Levine, Rachel B & Haidet, Paul. *Personal Growth During Internship: A Qualitative Analysis of Interns’ Responses to Key Questions.* 2006
Levinthal, Daniel & Claus, Rerup. *Bridging Mindful and Less Mindful Perspectives on Organizational Learning*. 2004


Stenberg, Robert J. *What is Wisdom and How Can We Develop It?* The ANNALS of the American Academy of Political and Social Science. 2004

Vogus, Timothy J & Welbourne, Theresa M. *Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations*. May 2003


Webb, Peter J. *Inspirational Chaos: Executives Coaching and Tolerance of Complexity: Evidence-Based Coaching* 2005


Internet references:
Behavioral Tech LLC. *About Mindfulness*

Delicia. *Myers-Briggs Type Indicator (MBTI)* Internet :
http://www.engr.uky.edu/~lgh/classes/ee499/ee49905spring_files/Task2_s05.pdf

Moravec & Associates, Global management consulting company within high-reliability organizations. www.moravecglobal.com

Magazine: