Flourishing at the edge of chaos: Leading purposeful change and loving it

Josie McLean and Sam Wells University of Adelaide

In this conceptual paper, we support the proposition that, if we are to apply the lessons learnt from our engagement with complex natural systems to our practice of leadership and leading organisational change, a true paradigm shift is required. It is more than embracing the natural and social worlds in addition to the economic realities — solutions such as the triple bottom line already offer this. The required profound shift places the principles that underpin sustainability in its broadest sense, and so incorporating spiritual fulfilment, at the centre of organisational life. Within this systems perspective, we examine the nature and dynamic of the paradigmatic shift, positioning vision and leadership at the heart of a transition designed to liberate and maximise the contribution which our undiminished humanity can make within organisations. We propose that the shift will be marked by joy and fulfilment and a new level of organisational effectiveness that will also be the hallmark of a 'sustaining organisation'.

On this basis, we identify and explore fundamental principles that can inform the work of those exercising their leadership for organisational change. These are at odds with more traditional and mythical (and enduring) notions of leaders as 'heroes'.

Key words: emergent leadership, complex adaptive systems, sustaining organisations, envisioning

INTRODUCTION – LEADERSHIP AND LEADERS

This paper is designed: a) to extend the conceptual framework for organisational leadership, in the light of our growing understanding of complex, selforganising systems, and b) to describe how the principles of this 'emergent leadership' model might be expressed in organisational practice. This work grows out of our concern to describe in practical terms how leadership may be exercised in response to indications that many current organisational practises are 'unsustainable'.

Over the last 40 years or so, much of the leadership literature has reflected a desire to explore alternatives to the traditional model of *leader as Hero* — charismatic, omniscient, omnipotent, in control. These contemporary approaches have described leadership in ways that challenge the Hero paradigm, which was based on a largely objective view of leadership and free of any reference to inner life, or to dynamic relationships. Servant leadership (Greenleaf 1983), adaptive leadership (Heifetz 1994), and so on, have tended to focus on authenticity and the inner qualities and

Correspondence concerning this article should be addressed to Josie McLean, PO Box 192 Blackwood SA 5051, Australia. Email: josie@the-partnership.com.au

dynamics of leadership – engaging with the organisational environment, rather than imposing oneself on it. Leading from the inside out.

To be clear about how we use the term *leadership*, first, much of the leadership literature seeks to make a clear distinction between leadership and management (e.g. Kotter 1990). This approach marks leadership and management as two different functions - leadership as essentially initiating strategic change and management as dealing with operational 'complexity'. 'Good management brings order and consistency to key dimensions like quality and profitability of products' (Kotter 1990, p 140). We prefer not to make this kind of distinction between leadership and management. We think of management as an organisational 'end', a role that delivers certain prescribed outcomes. Leadership is best thought of as one means to that end - a quality or capability or group of behaviours. Capable managers continually exercise leadership in the course of performing their role.

Second, it follows that leadership can be exercised not only by managers but by anyone in the organisation. So we join with Heifetz in disassociating leadership and positions of authority (Heifetz 1994; Heifetz & Laurie 1997; Heifetz & Linsky 2002). The term 'leader' is often used to refer to the senior management or executive of an

organisation and Heifetz proposes the use of the word 'leadership' rather than 'leader'. This distinction means that anyone can choose to exercise their leadership – the act of leadership can be facilitated or hindered by the concurrent association with a position of authority.

Avoiding the term 'leader' can give rise to a certain clumsiness and artificiality in language, so we have decided to 'rehabilitate' it and to use it wherever the context demands, but only in the sense of someone, anyone, who exercises leadership.

Heifetz also introduces the notion of leadership as a process that brings people together within a system and allows them to engage in conversations that reprioritise values and enable adaption. He terms this adaptive leadership. At a time when it is increasingly critical for us to make quick and fundamental changes to the way we live and work, in response to looming issues of global 'unsustainability', this kind of 'learning' leadership seems to be in high demand and short supply.

Finally, we understand leadership as responsive to context. The global context, from a social, economic, technological, and political perspective is changing dramatically, or may be said to have changed already. In order to remain effective, leadership must be understood and exercised in ways that respond to that change.

This paper focuses on all these expressions of leadership – its capacity to facilitate effective individual and organisational responses, in a complex organisational environment, to changes in context.

A PARADIGM SHIFT

Recent advances in scientific thinking, especially the development of complexity science and our growing understanding of complex, adaptive, self-organising systems, have provided us with an opportunity to extend the paradigm shift in leadership thinking. The behaviour of complex systems, including complex organisational systems, demands (and facilitates) an approach to leadership that fundamentally and powerfully severs the links with the Newtonian, reductionist, objective, one-dimensional, controlling, heroic model of leadership.

This is a true paradigm shift, which involves more than playing with some new ideas at the edge of the old paradigm. It recognises environmental, social and financial facets as integrated and inseparable parts of a whole system. That system supports the health of the organisation. The

organisation recognises that it needs not merely to preserve the status quo or minimise damage done, but also to nurture, renew and heal the system, at the level of the organisation and of the 'ecology' in which it is imbedded.

Without labouring a point that is already well represented in the literature, (Asia Pacific Forum for Environment and Development 2005; Daloz Parks 2005; Dunphy, Griffiths & Benn 2007; Ehrenfeld 2000; Hart 2005; Marrewijk 2004; Senge, Carstedt & Porter 2001; Stead & Garner Stead 1994; Wheatley 1999, 2007) the old paradigm, still very evident within organisations, is founded upon assumptions of direct and linear cause and effect, consistency, predictability. It engenders a methodology for solving problems that relies upon reducing situations into their component parts and seeking to solve the problem at that level. This is the legacy of a paradigm (which has served us so well in many ways) elaborated by science over the past 300 years (Sahtouris 2003; Wheatley 1999). It has been progressively institutionalised within organisations since the early 1900's, when 'scientific management' was first advocated.

We can observe the legacy of this approach in today's organisations and leadership practices, which seek to 'create the desired future'; plan the path to that future; implement the plan in step by step processes; 'drive the change'; and implement policies and procedures that are in large part designed to control the organisational behaviours, and options, in response to the plan. How successful is this approach? Higgs and Rowland (2005) refer to the widely reported finding that upwards of 70% of organisational change initiatives fail. Drawing on their own research, they conclude that 'Both qualitative and quantitative data indicated that change approaches that were based on assumptions of linearity, were unsuccessful, whereas those built on assumptions of complexity were more successful. Approaches classified as emergent change were found to be the most successful.' (Higgs & Rowland 2005, p 121)

What has changed? As our world has grown more populous, as we have become more connected via technologies such as the internet, and as corporations have grown to multinational status, influencing the flow of capital, jobs and goods - we are receiving feedback from our environment that the existing paradigm, and its associated unexamined and unconscious assumptions, is creating unintended and unwelcome consequences. What was once a useful way of seeing the world is now much less useful – it cannot adequately explain the evidence from our

environment, or provide us with insights into a range of increasingly complex and serious problems. It is being superseded by something fundamentally different, and more valuable.

LEADERSHIP AND COMPLEX SYSTEMS

This shift in thinking can be expressed in several different ways - from a 'mechanistic' to an 'organic' perspective; from dictating or controlling outcomes to 'dancing' with complex systems (Meadows 2002; Wheatley 1999, 2007). In particular, biology has provided an understanding of 'autopoietic' systems, which recreate themselves from within themselves and are in a constant state of adaptive, selforganised experimentation and learning (Ison & Russell 2000; Sahtouris 2003). These systems are 'closed' in terms of their self-sufficient operation, but 'open' in terms of connection to the environment or medium within which they exist. They continuously adapt their own 'structure', or more accurately, the relationships between the constituent elements or parts of the system, in order to conserve their identity (Ison & Russell 2000, p 37-38). Within a complex organisational system, this identity is manifested in the purpose and entrenched values of the organisation (Schein 1990; Wheatley 1999, 2007).

Viewing organisations as autopoietic or living systems (Geus 1997), rather than as mechanistic, is a different context within which leadership needs itself. the fundamental express Here assumptions are of connectedness. unpredictability, inconsistency, self organisation, and emergent behaviour (Senge 1985; Wheatley 1999, 2007). Those seeking to exercise leadership cannot be seduced by the desire for, and illusion of, control.

Within an autopoietic system, the continuous process of adaptation, which comprises a series of seemingly chaotic experiments that enable the system to 'learn' (Senge 1985; Senge, Carstedt & Porter 2001; Senge et al. 2000; Senge 1993; Wheatley 1999, 2007), does not have to be perfect in order to produce a workable system (Ison & Russell 2000). It only has to be able to support survival. Nevertheless, the better the adaptation is to the demands and changes of the external environment, or the better its fit, the more effective will be the performance of the autopoietic system (Ison & Russell 2000). In an organisational context, this means that the challenge for leadership is to facilitate the process of learning and adaptation that produces the best dynamic fit with the environment - an environment that, itself,

comprises other complex, autopoietic systems.

EMERGENT LEADERSHIP

Identifying the leadership challenge and the broad conceptual framework for engaging purposefully with the complexity in autopoietic systems is just part of our task. The rest of this paper sets out to explore the practical expression of this model of leadership, in an organisational context. What are the means by which we can engage purposefully with, and lead change in, the human environment of an organisation, as we make the transition to the new paradigm and operate within it? And how will we actually experience this kind of leadership? We are particularly interested in these questions, as the answers relate directly to how we might make the shift to forming organisations that are sustainable and sustaining, in the broadest sense of those words.

We have called the leadership demanded by this context 'emergent leadership'. The term is intended to capture both the unpredictable 'emergent' behaviour of complex systems, governed by the complex interactions and feedback dynamics of the system components, and the role of facilitating the emergent change while bringing a vision of the future 'lovingly into being' (Meadows 2002, p.2).

Although emergent leadership lacks the reassuring (and illusory) certainty of the heroic control paradigm, it introduces us to a far more sophisticated and powerful way of thinking and acting. Anyone who has experienced the sense of humbling and powerful engagement with complexity that accompanies surfing or skiing or sailing a little boat will understand the surrender to complex forces beyond our control...and the ability to make progress that can only be achieved through that surrender. This is the fundamental nature and dynamic of the 'dance'.

Emergent leadership is associated a mental model that reflects a particular way of seeing and experiencing things – a particular way of being and of doing (skill set). This mental model starts with an acute awareness of the interconnectedness and interdependence of things. It never loses a sense of the 'whole' by becoming immersed in the parts. It is often termed 'systems thinking' or 'systemic thinking', in contrast to linear, 'systematic' thinking (Ison 2008; Ison & Russell 2000). Systems thinking is particularly sensitive to the unpredictable connections and interactions between system components at a distance from each other, across space and time. (It could perhaps be argued that

this awareness of connection and interdependence across the various dimensions of life is what we come to call a 'spiritual' perspective.)

Within this framework, leadership is associated with liberating or facilitating, rather than controlling, dictating or playing the Hero. The central role of emergent leadership is that of meaning maker. By asking questions that ease the way for the emergent order, the emergent leader makes sense of interconnectedness and nurtures both the autopoietic organisational system and the complex systems within which it is imbedded. Emergent leadership facilitates the continuous evolutionary negotiation of self interest at every self-contained level, or 'holon', of the 'holarchy' (Sahtouris 2003).

Superior performance in this kind of leadership requires high levels of human insight, interpersonal behavioural capability, advanced coaching skills and a capacity for facilitating the expression of a shared, 'wholesome' vision. At the heart of all these leadership qualities are conversations - not planned, formal conversations, but emergent, loosely structured conversations. Emergent leadership sees these conversations not as occupying the gaps in the formal planning of change and not as the vehicle through which change can be pursued. These conversations are, themselves, the change (Shaw 1997) - they are the making of new meaning, they are the discovery of new interdependencies that express that meaning, and they are facilitated by leadership that is witness to the system's emergent wisdom, but does not create it.

Emergent leadership leads emergent change. As it engages with people in the organisational complex system, its focus is unbendingly on liberation, on enabling individuals to become everything they already are, in the service of the organisation. Just as Michelangelo is said to have chosen the block of stone from which to carve his sculpture of David because 'it has my David in it', so emergent leadership does not aspire to impose a likeness on passive material, but to remove the constraints to the fullest expression of the 'wholeness' within. Abraham Maslow, famous for his hierarchy of needs, was preoccupied with the highest level of the hierarchy, self-actualisation. He told his biographer that 'I think of the self-actualising man not as an ordinary man with something added, but rather as the ordinary man with nothing taken away' (Lowry 1973, p. 91). At the organisational level but in the same manner, emergent leadership aspires not to 'create' a future but to act as midwife to those possibilities that are waiting and wanting to come into being within the dynamics and relationships between various stakeholders, institutions and the environment within which they all exist. In this sense, emergent leadership helps to liberate what already is and aligns with the ancient Taoist writings where leaders are cautioned against excessive interference:

Tao never makes any ado, And yet it does everything. If a ruler can cling to it, All things will grow of themselves ... (Lao Tzu 2005, p75)

This level of being requires a great sensitivity to the system as a whole and the leverage points within the system – understanding how to do little and effect change with ease. It requires a foundation in the day-to-day goings on of organisational life, and therefore excellent communication channels with those who know. It requires the humility to engage with forces beyond control and to experience the power of literally 'working with' or in harmony with such powerful forces.

THE ROLE OF ENVISIONING

But what if individuals within an organisation do not have a fully-developed awareness of systemic thinking and interdependence? Anecdotally, some who teach systems thinking report that not everyone 'gets it' and Senge, one of the master teachers of systems thinking for the past 20 years, still discusses the problem of how to help people to 'see systems' (Senge, 2005). Certainly our observation of public figures and organisational leaders would suggest that not many understand the nature of interconnectedness or the fundamental concepts of systems thinking.

So, how can emergent leadership engage with individuals who do not share a mental model of wholeness in their personal and organisational lives? Part of the answer lies in shared vision – or rather, facilitating the emergence of a shared vision. And not just any vision, but a vision of 'what I really want, not what I am willing to settle for' (Meadows 1994) – a vision that recaptures the child's ability to articulate the heart-felt, values-rich story of how life should be...how life could be. This is the vision that we progressively lose as we 'grow up' and become more 'mature', 'realistic' and 'pragmatic' – that is, as we start 'settling for'.

Such a vision, aspiring to the fullest and most compelling expression of individual and collective meaning, cannot help but tend, inherently, to the sustainable, wholesome and spiritually fulfilling, even if the envisioning individual has not consciously become aware of and embraced a systemic perspective on life. And it will be 'shared' most readily and most powerfully at the level of values. It is the purpose and associated values which identify each individual organisation as unique within its environment (Wheatley 1999, 2007).

Aspiring to this shared vision provides the context within which emergent leadership can facilitate a journey of meaning and fulfilment, at both the individual and organisational level — a journey towards systemic awareness and towards a way of organisational life that reflects the joy and power of dancing with complex, autopoietic systems instead of trying to control them. The process of uncovering the shared vision is, of course, emergent. There is no template, no protocol. It cannot be controlled or predetermined. But it can be initiated, nourished, affirmed and, ultimately, crystallised by leadership that honours and trusts the power of autopoiesis.

This means that the basic principle to apply is that of participation. The development of a shared vision must involve multiple perspectives in order to provide an adequate representation of the system (Wheatley 1999, 2007). In line with our description of the role of the emergent leader above, the leader focuses attention on the need for a new conversation about vision and provides the container within which such a conversation may take place. The emergent leader ensures that various components of the relevant system are included in that conversation and ignites the conversation with powerful questions - what do people really want to be a part of in this organisation and what do they really see as this organisation's fundamental purpose?

People within the organisation explore the vision and values in depth to gain a personal understanding of the implications for them as individuals. This deep level of understanding cultivates an alignment between their individual contributions and the vision, as they work at the interface of the organisation and its environment, and so optimise its fit with the environment. In this manner, the vision, purpose and values become the chief catalysts of change — engendering change without themselves being changed — and self organisation becomes the central dynamic.

EMERGENT LEADERSHIP IN PRACTICE

The shared vision is generated without any obligation to conceive or articulate a clear path to

it. In fact, Meadows is adamant that requiring a clear path in order to legitimise the vision is the enemy of powerful envisioning (Meadows 1994). The emergent leader is content to allow the path to emerge as it is trodden, and is guided to the next step by a combination of the vision as a source of orientation and a reason to act (the 'why'), by shared values as a guide to 'how', and by observation of the system at any moment in time to determine 'what'. In an iterative process of observation, interpretation and intervention by way of emergent conversations, the leader catalyses change at leverage points within the system.

In the process, emergent leaders are aware of needing to liberate the 'best fit' between the individual and the organisation in order to facilitate the best fit between the organisation and its environment. That is, the organisation operates most effectively when the people in it, acting in the service of the organisation, are becoming everything they already are. This requires that managers exercise their leadership by setting people up for success (Wells 2007).

The old paradigm applies a reductionist perspective on 'performance'. Organisational performance is seen simply as the sum total of individual performances – if the organisation is falling short of its objectives, the blame must lie with one or more individuals who are 'letting the side down' by not meeting their own objectives. The management focus is on getting individuals to 'lift their game'.

Emergent leaders, operating in the new paradigm, recognise that the performance or contribution of an individual is influenced by several factors on which the manager has more influence than the individual whose performance is under review. In fact, it makes sense to see the performance review as less about the individual employee ('Has this person met their performance objectives?'), and more about the manager ('Have I done everything to set this person up for success?'). Setting someone up for success prompts a series of further questions.

Have I understood and optimised the processes within which individuals work?

W. Edwards Deming estimated that work systems or processes, rather than individual endeavour, are responsible for 85% of outcomes (Deming 1991(first pubd. 1982)). The natural variation in such systems is often attributed to the efforts of the individuals, who are rewarded and punished for outcomes over which they have little control.

Have I ensured that individuals are well fitted to excel in their roles at the level of relatively

unchanging behavioural capability?

McClelland's work established that, in regard to any role or type of role, at the deepest level of individual traits and motives it is possible to identify particular behaviours that are always present in superior performers and never present in average performers (Spencer & Spencer 1993). A bad fit condemns the individual to strive in a role without any real prospect of excellence. The organisation suffers both the direct cost of poor performance and the opportunity cost that flows from not having filled the role with a superior performer.

Have I shaped a role that provides for the passions and priorities of the individual?

This is another part of 'fit', and recognises the power of enabling individuals to bring the whole of themselves to the service of the organisation.

Have I provided the opportunity for individuals to obtain all the skills necessary to excel in their roles?

The right person in the right role, working with effective processes, must still be given the opportunity to acquire mastery – skills are not sufficient for such mastery, but they are necessary.

And finally, if everything else has been seen to, and 'performance' is still not what it should be, have I engaged with the individual at the simplest level of humanity? 'Is everything OK?'

The organisation cannot cure all ills or heal all wounds, but the emergent leader knows how much the organisation *can* do to facilitate wholeness (*heal* and *whole* have the same linguistic roots), if this simple question has been asked and answered.

Emergent leadership clears the way for the individual to become whole within the unfolding wholeness of the organisational context. The emergent holon of the individual negotiates its self interest within the emergent holon of the organisation, and emergent leadership facilitates the win-win process. For the individual, this involves bringing together personal passion, core values, innate gifts or capabilities and aspirations, in the service of an organisational 'cause' bigger than the individual. Emergent leadership helps to make meaning for the individual and the organisation. It liberates energy and enthusiasm in the service of the organisation by setting each individual up for success.

This is not unique to emergent leadership – it is (or should be) a central focus of all leadership. But emergent leadership, as it draws creativity and answers from individuals closest to the challenges, brings a different and powerful priority to bear – its

fundamental focus is to get out of the way and to clear impediments to an individual becoming everything they are. Emergent leadership trusts in people, trusts in their innate resources to rise to the occasion and as often as possible (given that crises do call for more directive styles on occasions) allows solutions to emerge from an individual's perspectives, passions, and talents. In this manner there is a direct link between the individual's self actualisation and the progressive adaptation of the organisation to its environment.

The role of the emergent leader is therefore either to listen to issues as they are identified by others, or to help bring larger strategic issues to the surface; provide 'containers' or processes within which stakeholders and individuals can focus their attention upon specific issues; participate in conversations that facilitate the emergence of new strategies or solutions (always viewed as experiments); provide a systemic context for what is going on (in this manner making meaning); provide resources to enable action; and liberate the capacity of people to respond. Emergent leadership is an act of purposeful facilitation of change.

There is another element of emergent leadership that is worth reinforcing at this point. This kind of leadership requires the wisdom of groups. We have alluded above to the need to engage perspectives from as much of the system as is possible and relevant - the emergent leader is aware that a single perspective — whose ever it is — is not enough. No one person has the skill or insight to solve the problems of complex adaptive systems. Therefore the ability to bring groups of people together, to facilitate conversations, and to cultivate a human environment in which groups and teams develop their own capacity to perform, is critical to the exercise of emergent leadership. It requires humility, patience and diplomacy.

It may well be that some people resist the move towards emergent leadership as they seek comfort in Hero Leaders who supply answers and solutions; who protect them by undertaking the work of change for them. In this regard, emergent leadership has much in common with adaptive leadership (Daloz Parks 2005, p 201 – 207) where the hero leader is yearned for but is no longer able to meet the needs of people due to a context which is now much more dynamic and complex. Emergent leadership requires that people share responsibility for the system and their interaction within the system.

CONCLUSION: EMERGENT LEADERS AND

SUSTAINING ORGANISATIONS

Emergent leadership has implications for the leaders themselves, for the development of such leaders, and for the organisation.

Emergent leaders exhibit specific qualities such as trust in others and in the emerging order; humility; patience; diplomacy; keen observational skills; a willingness to experiment and to embrace error as an opportunity for learning; and an ability to 'see systems' and interconnectedness. They can cultivate and nourish the creation of a powerful shared vision that does not 'settle for'. In addition, they require advanced interpersonal skills; coaching skills; and facilitation skills. They need to understand systems thinking and complexity, and be able to work with others who may not possess that conceptual insight.

This list of qualities, skills and knowledge should inform the 'curriculum' for the development of

leaders who can manage and lead organisations in ways that reflect the new paradigm we have described.

Emergent leaders will cultivate work environments that are joyful, fulfilling, collaborative and purposeful. More than creating staff satisfaction, these organisations will create and hold a space within which their people can pursue selfactualisation - individuals will become everything they already are, in the service of the organisation. And to the delight of all stakeholders, organisational performance or effectiveness will increase as the fit is optimised between individuals and the organisation, and between the organisation and its environment. These are the organisations that will nourish and be nourished by the web of complex, self-organising systems in which they are imbedded - they will be both sustainable and sustaining.

Figure 1: Emergent leaders and sustaining organisations

Emergent leaders and sustaining organisations

Emergent leaders

- Qualities:
 - Trust
 - Humility
 - Patience
 - Diplomacy
 - Observers
 - Learners
- Capabilities:
 - Interpersonal and communication skills
 - Coaching and facilitation skills
 - Envisioning
- Understanding of:
 - Systems thinking and complexity

Organisational outcomes

- · Work environment
 - Joyful
 - Fulfilling
 - Collaborative
 - Purposeful
- · People
 - Developing
 - Self actualising
- Organisational effectiveness
 - Best fit with environment
 - Nourishing the web
 - Sustainable and sustaining



Josie McLean, BEc., Grad.Dip.Mgt, PCC

Josie is a facilitator and executive coach who works with senior to middle managers, enabling them to be more effective leaders, capable of liberating the best from themselves and their people – delivering real change. She is one of the founders of the coaching industry in Australia and her contribution to the Australasian coaching industry was recently recognised, internationally, with the 2009 ICF President's Award. Her early career spanned a range of roles in the automotive and finance sectors, including strategic planning, credit analysis and management. Her area of expertise is in developing leadership skills through coaching and facilitating practical learning experiences. Josie's doctoral research is focused on the leadership and dynamics of organisational change in the paradigm shift to becoming a 'sustaining' organisation.



Sam Wells, DPhil. (Oxon.)

Sam graduated from the University of Adelaide in 1978 with 1st Class Honours in History. As South Australia's 1979 Rhodes Scholar, he completed his doctorate at Oxford in 1983. His doctoral research focused on a group of monastic letter writers in the late eleventh, early twelfth centuries. Sam spent 18 years in corporate human resource management and organisational development. He established his own consulting business in 2001 focused on cultivating organisations in which employees at all levels can 'be everything they are'. In 2005 Sam was appointed as a Senior Lecturer at the University of Adelaide, where he has been MBA Director since 2007. Sam's research interests focus on 'organisational sustainability', both in its broadest sense, and as it applies to the management of people within organisations.

REFERENCES

——, 2005, A new vision for an interdependent planet, distributed by Pegasus Communications Inc.

—— 2007, Finding our way: Leadership for an uncertain time, 2nd edn, Berrett-Koehler, San Francisco.

——, 2002, Dancing with systems, *The Systems Thinker*, vol. 13, no. 2, pp.2-6.

Asia Pacific Forum for Environment and Development 2005, Executive summary of the APFED final report: paradigm shift towards sustainability for Asia and the Pacific - turning challenges into opportunities, *International Review for Environmental Strategies*, vol. 5, no. 2, pp. 541-64.

Daloz Parks, S 2005, Leadership can be taught: A bold approach for a complex world, Harbard Business School Press, Boston.

Deming, WE 1991 (first pubd. 1982), *Out of the crisis*, Massachusetts Institute of Technology, Cambridge MA.

Dunphy, D, Griffiths, A & Benn, S 2007, Organizational change for corporate sustainability: A guide for leaders and change agents of the future, 2nd edn, Routledge.

Ehrenfeld, JR 2000, Industrial ecology: paradigm

shift or normal science?, *American Behavioral Scientist*, vol. 44, no. 2, pp. 229-44.

Geus, AD 1997, *The living company*, Harvard Business School Press, Boston.

Greenleaf, RC 1983, *Servant leadership*, Paulist Press, Mahwah.

Hart, SL 2005, Capitalism at the crossroads: The unlimited business opportunites in solving the world's most difficult problems, Wharton School Publishing, Upper Saddle River, New Jersey.

Heifetz, R & Laurie, D 1997, The work of leadership, *Harvard business review*, vol. 75, no. 1, pp. 124-34.

Heifetz, R & Linsky, M 2002, Leadership on the line: Staying alive through the dangers of leading, Harvard Business School Press, Boston.

Heifetz, R 1994, *Leadership without easy answers*, The Belnap Press of Harvard University Press, Cambridge, Massachusettes.

Higgs, M & Rowland, D 2005, All changes great and small: Exploring approaches to change and its leadership, *Journal of Change Management*, vol. 5, pp. 121-51,.

Ison, R & Russell, D 2000, Agricultural extension and rural development: Breaking out of traditions, Cambridge University Press.

Ison, R 2008, Systems thinking and practice for

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action research, *The SAGE Handbook of Action Research: Participative inquiry and practice*, vol. 2nd edition, pp. 139 - 59.

Kotter, JP 1990, What leaders really do, *Harvard Business Review*, vol. 68, pp. 103-11.

Lao Tzu 2005, *Tao teh ching*, Shambhala, Boston MA.

Lowry, R.J (ed). 1973. *A. H. Maslow: An intellectual portrait*, Monterey, California, Brooks/Cole.

Marrewijk, Mv 2004, A value based approach to organization types: Towards a coherent set of stakeholder-oriented management tools, *Journal of Business Ethics*, vol. 55, pp. 147-58.

Meadows, D 1994, Envisioning a sustainble world, paper presented to International Society for Ecological Economics, San Jose, Costa Rica.

Sahtouris, E 2003, After Darwin, http://www.ratical.org/LifeWeb/Articles/AfterDarwin.html accessed 9/12/09.

Schein, EH 1990, Organizational culture, *American Psychologist*, vol. 45, no. 2, pp. 109-19.

Senge, P 1985, Systems principles for leadership, viewed May 1985.

Senge, P 1985, Systems principles for leadership, Working paper (Sloan School of Management), Massachusetts Institute of Technology, Cambridge MA, pp. 1758-86.

Senge, P, Carstedt, G & Porter, P 2001, Innovating our way to the next industrial revolution, *MIT Sloan Management Review*, vol. 42, no. 2, pp. 24-38.

Senge, P, Kleiner, A, Roberts, C, Ross, R, Roth, G & Smith, B 2000, *The dance of change: The challenges of sustaining momentum in learning organizations*, 3rd reprint edn, Nicholas Brealey Publishing, London.

Senge, PM 1993, Transforming the Practice of Management, *Human Resource Development Quarterly*, vol. 4, pp. 5-32.

Shaw, P 1997, Intervening in the shadow systems of organizations: Consulting from a complexity perspective, *Journal of Organisational Change Management*, vol. 10, no. 3, pp. 235-50.

Spencer, LM & Spencer, SM 1993, Competence at work: Models for superior performance, Wiley, USA.

Stead, WE & Garner Stead, J 1994, Can humankind change the econimic myth? Paradigm shifts necessary for ecologically sustainable business, *Journal of Organisational Change Management*, vol. 7, no. 4, pp. 15-31.

Sterman, J & Sweeny, L 2007, Understanding public complacency about climate change: Adults' mental models of climate change violate conservation of matter, *Climatic Change*, vol. 80, no. 3-4, pp. 213-38.

Wells, S 2007, The performance appraisal that's not: Keeping up appearances, *Monash Business Review*, vol. 3(1), pp.34-37. (Complete academic version on-line.)

Wheatley, MJ 1999, Leadership and the new science: Discovering order in a chaotic world, 2nd edn, Berrett-Koehler, San Francisco CA.