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Working Paper Series

▶ Chasing the honey bee: Enhancing leadership for sustainability

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About the Swinburne Leadership Institute

The Swinburne Leadership Institute (SLI) seeks to promote **Leadership for the Greater Good** across government, the private and not-for-profit sectors, and civil society.

Our mission is to enrich the understanding and practice of authentic, ethical and sustainable forms of leadership in Australia.

Leadership for the Greater Good can take many forms. It always needs to be locally relevant and culturally appropriate. However, in all cases it recognises the legitimacy of the individual as citizen, the reality of our shared interests, and the importance of judiciously balancing competing interests in ways that enhance the public good.

The emergence in Australia of a political, business and civil culture that elevates immediate private interests over long-term public interests is a worrying sign that the Greater Good and leadership in its service is insufficiently valued in our society.

It is a social and research priority to understand the meaning and the myriad manifestations of Leadership for the Greater Good so as to enrich the practice of leadership in Australia.

Working Paper Series

▶ Chasing the honey bee: Enhancing leadership for sustainability

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Abstract

This Working Paper explores the ways in which different conceptions of leadership can contribute to the sustainability of economic productivity, social equity and, of course, the natural systems and resources upon which all social and economic development depend. It begins by briefly defining leadership and outlining the major approaches to leadership studies in terms of trait and social theories of leadership. In particular, the paper argues that transformational leadership and what Western (2013) calls "eco-leadership" are most consistent with the systemic, ethical and learning dimensions of sustainability. This involves contrasting what Avery and Bergsteiner (2011, 2013) call the "honey bee" and the "locust" approaches to leadership. With these authors, the chapter argues that the "honey bee" approach of critical, transformational leadership is most consistent with sustainability. The paper concludes with an example of how capacities for "honey bee" leadership and eco-leadership can be developed and enhanced through a university programme.

The words sustainability and leadership share much in common: both are overused terms; both are states that many people and organisations aspire to and often fall short of; and both are concepts that we struggle to define in a succinct way, but we know it when we see it. However, when combined, the concepts are not only powerful but are in fact essential for our continuing prosperity and the ability of future generations to be able to live better than we do today. (Mitchell, 2013, p. xxi)

The planetary context

Let's begin by thinking about some 40 to 50 year old books.

The publication of Rachel Carson's *Silent Spring* in 1962 and Garret Hardin's *The Tragedy of the Commons* in 1968 galvanized a worldwide movement of scientists, community groups, and increasing numbers of business and political leaders. Research and debate about the planetary boundaries that could constrain the consumption of ecosystem services and ways of avoiding potential negative impacts on economic activities and human well-being have since been a key feature of local, national and international discourse. The Club of Rome enriched this understanding with the publication of *Limits to Growth* (Meadows et al 1972), which offered a major correction to economic models that fail to see the interconnectedness of population dynamics, technological change and rates of resource extraction and waste production. James Lovelock's Gaia (1979) theory, that Earth is a complex organism with processes continually adjusting through complex feedback processes also entered the psyche of 20th Century humans. Such books could possibly be seen as catalysing a watershed in human thinking, especially with food and water security, air-pollution threats to human health, and climate change politics coming dominate much economic and political thinking.

It might be said that the issues raised by these books and the consequent scientific research and economic and political debate have led to a reappraisal of human values with almost every major religion and philosophical worldview examining their creation stories and/or historical roots in a re-evaluation of the place of humanity as but a small component of wider systems, and very dependent on the health of the whole. As colleagues and I have written elsewhere,

A defining moment in human history may well have been in our initial space explorations as we 'saw' for the first time from an outsiders' perspective, the rather frail earth spaceship in a new cosmic light. Initially 're-evaluation' appears to have led to a polarisation of societies with greens on the left and developers to the right and every conceivable shade of green and pink in between. Conflict, both local and global, formed part of the milieu in the reflecting process with industry and global players in open cultural warfare with greens and their various political allies. (Fien, Goldney and Murphy 2008: 21)

Increasingly however, business and industry are beginning to drive development in ways that bring 'green' and 'brown' together, not just because the business case for sustainable business practices is now overwhelming (Natural Capital Solutions 2012) but because of the growing recognition of the wider moral responsibilities of business as corporate citizens (Gore & Blood 2012). As a result, agricultural producers are seeking ways to better integrate nature conservation into land practices in order to ensure sustainable productivity, while manufacturing enterprises, especially in exporting countries, are already changing in order to gain access to 'greening' markets characterized by stronger environmental regulations.

In this regard, as far back as 1992, Stephen Schmidheiny, the founder of the Davos World Economic Forum and the World Business Council for Sustainable Development, wrote:

> The environmental challenge has grown from local pollution to global threats and choices. The business challenge has likewise grown – from relatively simple technical fixes and additional costs to a corporate wide collection of threats, choices, and opportunities that are of central importance in separating tomorrow's winners from tomorrow's losers. Corporate leaders must take this into account when designing strategic plans of business and deciding the priorities of their own work.
>
> Sustainable development is also about redefining the roles of the economic game in order to move from a situation of wasteful consumption and pollution to one of conservation, and from one of privilege and protectionism to one of fair and equitable chances open to all. Business leaders will want to participate in devising the rules of the new game, striving to make them simple, practical, and efficient.
>
> No one can reasonably doubt that fundamental change is needed. This fact offers us two basic options: we can resist as long as possible, or we can join those shaping the future.
> (Schmidheiny 1992, p.13)

The future preferred by Schmidheiny, and as advocated by Davos Forum participants – at least while they are in attendance each year – is the latter, a sustainable future. Such a future is one of "conscious capitalism" (Mackey & Sisodia 2013) or "sustainable capitalism (Gore and Blood 2012).

This Working Paper explores the nature of the leadership required to support the transition to such a future. However, the contrasting interrelationships between economic development, environmental conservation and social equity in different cultural and socio-political contexts means that sustainability always needs to considered in ways that are locally relevant and culturally appropriate and, of course, there will always be trade-offs as conditions and priorities change.

Approaches to leadership and sustainability

Unlike sustainability, scientific concepts such as mass and velocity or pressure and temperature have rigidly defined meanings and the relationships between them are so fixed that they are called "laws". However, like love, beauty and sustainability, leadership is not a scientific concept. It is a normative one and reflective of the values and ideologies of those who use the term. Thus, there are many definitions of leadership; indeed, it has been said there are almost as many definitions of leadership as there have been people writing them.

However, all definitions seem to share at least four of the five key elements in Figure 1, in that they see leadership as a relationship of influence between individuals and groups designed to achieve a common purpose. The fifth element – responsibility and integrity – is not always present. However, in this Working Paper, on sustainability and leadership, it is essential. Thus, the following definition of leadership is used as a starting point:

> Leadership is an ethical process whereby an individual influences a group of other individuals to implement the changes needed to achieve a common purpose within a framework of responsibility and integrity (after Northouse 2010, p. 3)

It is the ethical dimension of leadership that separates it from the often charismatic but command-and-control intentions and approaches of despots. It is also the ethical dimension of leadership that makes it so pertinent to sustainability.
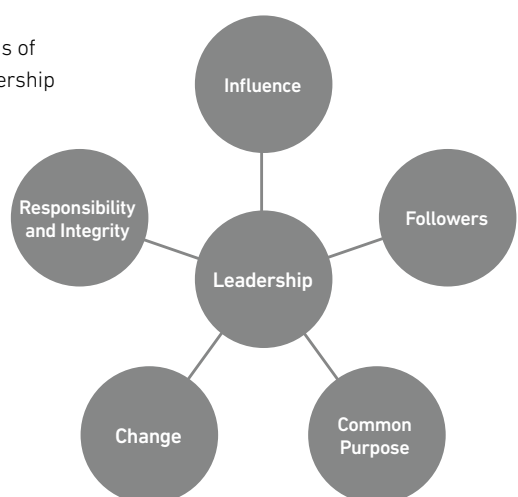

Figure 1: Shared elements in definitions of leadership

Sometimes, however, the idealist, communitarian beliefs of sustainability advocates might have us believe that the movement and its goal of social transition do not require leadership as this would be antithetical to the principles of democracy and equality so essential to any set of sustainability values. This is a reflection of the normative nature of the leadership concept and denotes a view of leadership as something imposed from above. However, this is not necessarily the case when leadership is viewed as a process in which ethical means of influence catalyse people to work for a shared purpose.

Many different approaches to examining leadership have been developed due to its normative nature. A two-fold categorization of these is used here for the sake of brevity: those that focus on the traits of leaders and those that focus on the process of leadership as embedded in different social theories.

Trait theories of leadership

Traits are the distinguishing personal characteristics of an individual. The search for leadership traits has been a feature of much research on leadership. Grounded mainly in psychology, early studies of leadership traits examined the levels of self-belief, confidence, drive, popularity and sociability among eminent, identifiable leaders, and even their physical appearance and energy levels. Summarising the findings of several decades of Gallup polls on ratings of leadership traits, Rath and Conchie (2012) have identified three generic traits of the "most influential" of leaders, i.e. those who are seen as being very successful in achieving the goals of their organizations. These three are:

1. They know their own strengths and are able to call upon and apply these at different times as conditions demand. This is what leadership scholars call "situational" and "contingency" theories of leadership. (See Northouse 2010, Chs. 5&6).

2. They invest in building the strengths of their team members and seek to have a balance of influencing, relationship building, project management and strategic thinking skills across their teams. This is what leadership scholars seek when they work within "path-goal" and "leader–member exchange" theories of leadership. (See Northouse 2010, Chs. 7&8).

3. They understand what team members want in a leader – and no matter what their individual leadership strengths can apply them in ways that build trust, display compassion, provide a sense of stability, and inspire optimism and hope. This is what leadership scholars call "authentic leadership". (See Northouse 2010, Ch. 10).

Recognizing the fact that constant change has become the "new normal", Stephenson Mansell (2013) extend this list to include five additional traits:

1. *Agility to manage complexity* – so necessary for systems thinking and dealing with 'wicked problems' for which there a no simple answers.

2. *Strategic thinking* – for seeking alternative solutions with multiple benefits and ensuring that all organisational activities contribute directly to agreed goals.

3. *Communication skills* – for building partnerships and ensuring clarity and agreement on goals, tasks and responsibilities.

4. *Influencing skills* – for facilitating an organisational culture based upon common understandings of, and commitments to goals, tasks and responsibilities.

5. *Ability to lead and develop talent* – by building a learning culture that ensures all members have the knowledge, skills and commitment to perform agreed activities and are confident to suggest new or alternative ways forward.

Trait theory has been applied to sustainability leadership. For example, Fertig (2009) defines a sustainability leader as "anyone who chooses to engage in the process of creating transformative change with others aimed toward a sustainable future; economically, environmentally and socially" (p. 1). In this regard, she identifies eight leadership traits:

1. *Thinking holistically* by looking for holistic interconnections and marshalling and resources for optimal impact through synergetic partnerships.

2. *Facilitating emerging outcomes* by continually assessing opportunities and risks associated with sustainability strategies (which may not be immediately visible) as outcomes unfold over time.

3. *Understanding social change dynamics* by noticing and making sense of patterns and understanding human change processes.

4. *Expanding one's own conscious awareness* through being clear about one's own identity, principles and intentions before engaging others in the work of change.

5. *Taking responsibility* for making sustainability relevant to others.

6. *Creating spaces* for, and participating in, constructive conversations through building authentic relationships.

7. *Fostering creative tension* by inviting diverse voices and perspectives and understanding and working with paradox, ambiguity and conflict.

8. *Experimenting, learning and adapting* through the reflective use of sustainability frameworks for integrated analysis and action; sharing information and knowledge as it unfolds; learning through experimenting.

Significantly, each of these traits has a learning dimension that reflects the notion of sustainability *as* learning (Gough and Scott 2003): learning for and about oneself; stimulating sustainability thinking amongst others; and treating all interventions aimed at advancing sustainability as an opportunity for experimenting and learning. This is a reflection of the idea that normative concepts such as sustainability and leadership are normative ones, changeable and dynamic. Thus, as conditions change, the quality and effectiveness of what we do depend upon the ability to reflect and learn better ways of thinking and doing things than we had before. That is, there can be no leadership or sustainability without a learning culture.

Nevertheless, Caesar (2011) does offer a note of caution about trait theories in relation to sustainability leadership:

> . . . *leadership for sustainability is not something that can nor should be embodied in a sole heroic individual. Instead it is diffuse, pluralistic, collective, facilitative, and has more feminine attributes. Therefore the true sustainability leaders are, and sustainability leadership more generally is, far more relational, far more inter-subjective and far harder to spot.* (p. 1)

Social theories of leadership

Rather than focus on the traits of leaders, social theories of leadership tend to focus on processes of leadership and, if Caesar is right, then these may be more relevant to sustainability leadership than trait theories. Of course, social and trait theories are not mutually exclusive. Some indication of this was shown above where, for example, the judicious use of certain leadership styles and traits in different contexts is a characteristic of situational and contingency theories. An extremely large number of social theories of leadership have been posited. These include situational, contingency, path-goal and leader-member exchange theories – as well as transactional, transformational,

psychodynamic and critical theories of leadership. Following Western (2013), researchers at the Global Leadership Initiative at the University of Tokyo have identified a series of waves of social theories – or discourses – of leadership (Figure 2).
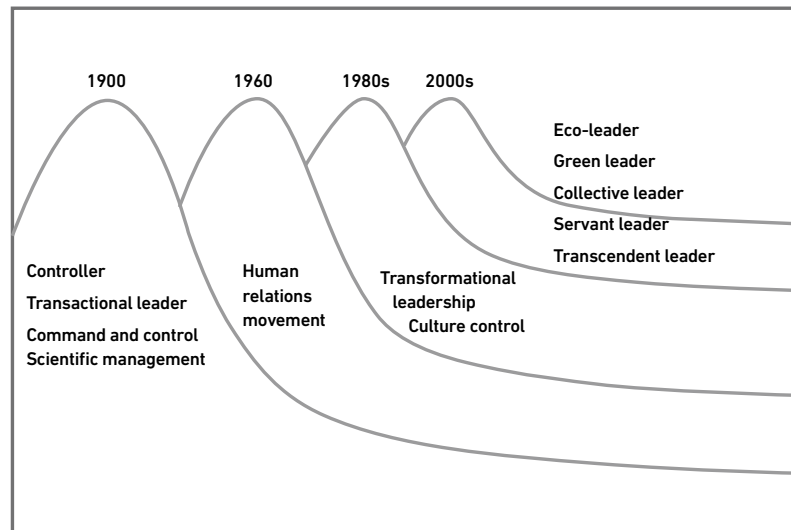

Figure 2: Waves of leadership practice based upon social theories or discourses of leadership (Western 2013; Akiyama, An, Furumai & Katayama 2013, p. 23)

All such social theories of leadership are grounded in the ideologies of those who practice them and those who research them, and give rise to a wide range of identified leadership styles or approaches. Here is not the place to summarise the various theories. For definitions and a comparative review of these, see Grint (Northouse (2010), and Western (2013). Instead, Figure 3 provides a guide to the major features and beliefs with which they may be analysed. As such, it depicts a range of continua associated with the levels of emphasis placed on different elements of the various theories. These elements include: the role of the individual, the importance and effects of context, the nature of power, ends-means reasoning, and levels of participation. Thus, for example, command and control and transactional theories of leadership would tend to align with the left-hand side of most of the continua while transformational leadership theory would tend to be most aligned with right-hand side of most of the continua.

	The Individual in Society	
Individual action determined by personal will		Society determines individual action
Consistent leadership style	Context	Change leadership style to match context
Power to be used to achieve results	Power	Power to be used to empower followers
The ends justify the means	Ends and Means	The means validates the ends
Leaders need to motivate by rewards	Motivations	Followers are self-motivated
Leader makes all decisions	Participation	Participation and ownership of decisions
Leaders are dominant personalities	Personality	Leadership through charisma

Figure 3: Elements in theories of leadership

Source: After Hernandez, Eberly, Avolio & Johnson (2011, p. 1166)

Thus, with its the participatory, ethical and empowerment-focused goals and processes, transformational leadership theories appear to be most consistent with the goals of sustainability.

Transformational leadership

As the name implies, transformational leaders act as change agents by seeking to inspire positive changes in groups or organizations with a view to meeting a shared vision. Transformational leadership draws upon the charismatic influence of the leader, rather than using command-and-control or transactional approaches to motivating followers to act.

As a result, transformational leaders are often said to have extroverted personalities, high levels of energy and enthusiasm, are passionate about their causes or organizations, and highly-effective communicators. Thus, through the strength of their vision and personality, transformational leaders are able to inspire followers to share their vision and use this commitment to motivate followers to collaborate in working towards achieving the vision. Transformational leaders are also highly engaged with the needs of individuals in their groups and strive to help every member succeed as individuals and as members of the group. Thus, transformational leaders have been defined as people:

> . . . who stimulate and inspire followers to both achieve extraordinary outcomes and, in the process, develop their own leadership capacity. Transformational leaders help followers grow and develop into leaders by responding to individual followers' needs by empowering them and by aligning the objectives and goals of the individual followers, the leader, the group, and the larger organization. (Bass and Riggio 2006, p. 3)

Figure 4 depicts these attributes of transformational leaders and the particular skills that are involved. Not every leader who might be described as – or seeks to live as – a transformational leader necessarily needs to display all these attributes and skills at all times although it seems that the ability to nourish a common culture is an "essential precondition" for success as a transformational leader (Tourish and Pinnington 2002, p. 162). Research also indicates that transformational leadership is among the most successful of leadership styles, with Riggio (2009) synthesising these studies by arguing "groups led by transformational leaders have higher levels of performance and satisfaction than groups led by other types of leaders" as they are able to "inspire, empower, and stimulate followers to exceed normal levels of performance" (p. 1)

Figure 4: The four elements of transformational leadership

Source: http://lionking2013.blogspot.com.au/p/mufasa.html

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Numerous individuals have been identified as transformational leaders, e.g. Bill and Melinda Gates in philanthropy, Wangari Maathai and Petra Kelly in Kenyan and German green politics, respectively, and Ray Anderson of Interface carpets in business. However, there can be a dark side to transformational leadership. There can be a unidirectional power relationship in transformational leadership, and charismatic visionary personalities can sometimes overwhelm people who prefer to work in quieter ways. Even the goal of follower empowerment can be problematic if it is not achieved through processes that encourage critical thinking and reflexivity. This is part of the same critique often made of empowerment approaches in capacity building (Miller 1993). As Yukl (1999) has argued, transformational leadership may encourage followers "to embrace, disseminate and implement" a vision but does not necessarily also encourage them to "challenge the vision or develop a better one" (p. 38).

Such concerns have led some leadership scholars to propose alternatives that integrate the potential of transformational leadership with principles that negate the negatives. Emerging as one of the most significant of these is the notion of "eco-leadership". Western (2013) describes eco-leadership as a new leadership paradigm for organizations wishing to respond positively to the inter-dependent global environments in which they do business. Thus, concepts such as connectivity, ethics, community and sustainability are at the core of eco-leadership. Western has synthesized these into a set of principles of eco-leadership:

1. **Connectivity**: Recognizing the interconnected and interdependent nature of network society, eco-leadership is grounded in systems thinking and makes all decisions within the framework of conserving ecosystem services and enhancing social networks.

2. **Systemic ethics**: Recognizing the moral basis of sustainability, eco-leadership adopts a rights-based approach to ethical issues that integrate organizational goals within a concern for the greater good.

3. **Leadership spirit**: Drawing upon the vitality of human relationships and the marriage of ecology, economy and ethics, eco-leadership acknowledges the supremacy of human well-being and the need to conserve the resources, upon which all social and economic development depend. Thus, eco-leadership goes beyond financial value propositions to prioritize creativity, conservation, community and equity as the foundations of humanity and economics as the means to such ends.

4. **Organizational belonging**: Eco-leaders commit their organizations to the places in which they live and work. They develop and enhance relations with local communities that go beyond the "licence to operate" to participate fully in community life, taking responsibility for the local and global impacts of their activities. (Western 2014: 6).

A special feature of eco-leadership is its emphasis on flexibility in responding to change. Hierarchical approaches to leadership and linear approaches to decision making have become ineffective in a world where continuous change is the norm, and volatility, uncertainty, complexity and ambiguity characterize personal, community and economic relations (Horney, Pasmore and O'Shea 2013). As a result, many leaders are seen as unsuccessful and public perceptions of leaders, and leadership in general, are in decline in many parts of the world. For example, a survey in the United Kingdom in 2013 found less than 25 per cent of the population believed that their employers adopted a leadership style suitable for responding to the recent global financial crises (Impact International 2013). A similar survey in Australia found that 75 per cent of people believe that Australian workplaces need better leadership while 35 per cent of those in senior or middle management positions believe there are no suitable role models for leadership in their workplaces (Centre for Workplace Leadership 2014).

The ecological metaphors of the "honeybee" and the "locust" have been used to contrast the old patterns of leadership that have resulted in such perceptions of ineffectiveness (locust leadership) with the flexible and adaptive approaches required for eco-leadership (or honeybee leadership) (Avery and Bergsteiner 2011, 2013). The reasons for the use of the terminology of locusts and honeybees are explained in Figure 5. As Laburn (2011) notes:

> *A major difference between the locust and honeybee leadership philosophies lies in the perceptions about who has obligations to whom, whose interests the enterprise's actions impinge upon and how these obligations and interests can be reconciled . . . . The honeybee view is that the interests of shareholders and owners can best be met when the interests of all those who need to contribute to the task of enriching the shareholders are taken care of. This includes employees, customers, suppliers, managers, board members, patrons, the media, government, regulators, alliance partners and future generations. Honeybee enterprises consider a far wider range of stakeholder interests than locust leadership.* (p. 1)

	Bee colonies consist of a queen and many specialists, such as drones and foraging workers. Under ideal conditions, a colony of honeybees can produce more than 90kg of surplus honey a year. However, the bee's most significant contribution is pollinating plants that affect about one third of the human diet and much of what animals and insects eat. Honeybees are essential for maintaining a large part of the ecosystem. The honeybee is not only productive, but is a symbol of cooperation, thrift, diligence forethought and healing	Honeybee leadership focuses on the long-term and delivers its outcomes as responsibly as possible for the greatest number of stakeholders. Honeybee leadership assumes that a company can be sustainable only if its operating context is sustainable and if the basic needs of all involved parties are taken into account. A sustainable enterprise considers all its members as well as the interests of future generations. A business led under honeybee philosophy cares for and develops its people, tries to protect the planet, cares for the local communities in which it operates and protects its image and brand through ethical behaviour.
	The locust is usually a solitary insect with a lifestyle much like a grasshoppers. Alone they are relatively benign. However throughout history humans have feared the devastation that locusts can bring when they form swarms. Under favourable environmental conditions that produce many green plants and promote breeding, millions of locusts congregate into thick, ravenous swarms. Ravenous swarms can devastate healthy crops and cause major agricultural damage. This results in misery through famine and starvation because each locust can eat its own weight in plants every day. Although locusts have survived as a species, the cost to other life forms is high and the impact on the environment can be catastrophic.	Locust leadership has one purpose only – to generate a continuous stream of profit and growth for its shareholders. This has engendered a particular approach to leadership. The hard balling within locust leadership requires managers to be tough and ruthless and to do whatever is necessary to perform well in the short term. The immediate rewards that flow from locust management encourage a focus on the short-term. Under locust philosophy, corporate social responsibility is served by providing jobs and generating wealth for shareholders. In its most extreme form, locust leadership achieve its objectives by polluting the air and water wherever they can get away with it. Locust leaders will send competitors out of business, pay pittance wages or devise elaborate tax evasion or avoidance schemes. Locust philosophy is based on the idea that one's advantage can be achieved only by making others suffer – a zero sum game.

Figure 5: An overview of honeybee and locus leadership

Source: After Laburn (2011), p. 1

Figure 6 contrasts the features of the two approaches. These comprise 23 integrated and mutually supportive leadership practices that, when practiced within the honeybee framework, confer strategic comparative advantage on a firm. These practices are diametrically opposed to the unsustainable locust practices frequently seen in business-as-usual management. The 23 features comprise: (i) 14 foundation practices that enable (ii) six higher-level practices, which, in turn, facilitate (iii) three key performance drivers.

Leadership Practices	Honeybee leadership	Locust leadership
Foundational Sustainability Practices		
1. Developing people	Develop everyone continuously	Develops people selectively
2. Labor relations	Seeks cooperation	Acts antagonistically
3. Retaining staff	Values long tenure at all levels	Accepts high staff turnover
4. Succession planning	Promotes from within where possible	Appoints from outside where possible
5. Valuing staff	Concerned about employees' welfare	People are an interchangeable cost
6. CEO and top team	CEO is top team member or speaker	CEO is decision maker, 'hero'
7. Ethical behaviour	Doing the right thing an explicit value	Ambivalent, negotiable, assessable risk
8. Long term perspective	Long-term overrides short-term	Short-term profits and growth prevail
9. Organisational change	Evolving and considered process	Rapid adjustment, volatile, ad hoc
10. Financial markets	Seeks maximum independence	Follows the markets, often slavishly
11. Environmental resp.	Protects the environment	Is prepared to exploit the environment
12. Social responsibility	Values people and the community	Exploits people and the community
13. Stakeholders	Everyone matters	Only the shareholders matter
14. Vision's role	Shared vision is strategic tool	Here-and-now focused
Higher-level Practices		
15. Decision making	Consensual and devolved	Primarily manager-centered
16. Self-management	Staff are mostly self-managing	Managers manage
17. Team orientation	Teams are extensive and empowered	Teams are limited and manager-centered
18. Organizational culture	An enabling, widely-shared culture	Weak, except for short-term focus
19. Knowledge sharing	Spread throughout the organization	Limited to a few "gatekeepers"
20. Trust	Relationships and good-will based	Control and monitoring in lieu of trust
Key Performance Drivers		
21. Innovation	Strong, systemic, strategic, at all levels	Limited, selective, buys in expertise
22. Staff engagement	Emotionally committed	Financial rewards govern motivation
23. Quality	A matter of culture	A matter of control

Figure 6: Sustainability practices and performance drivers in honeybee and locust leadership

Source: Adapted from Bergsteiner & Avery (2013)

The concepts of eco-leadership and honeybee leadership are very similar and, obviously, very consistent with the philosophies of sustainability. However, they share two features that may be questioned. Firstly, they do not have the explicit learning orientation (perhaps apart from the primacy of staff development in honeybee leadership) that we noted earlier in Ferdig's (2009) set of eight traits of sustainability leaders. However, this may be more a "sin of omission" than deliberate neglect. Secondly, they are explicitly about business organisations. This is unfortunate as governments, not-for-profits, and other civil society organizations, including neighbourhood associations, have significant roles to play in the sustainability transition. Certainly, many of the features of both eco-leadership and honeybee leadership are very relevant to these non-corporate sectors but there are noticeable omissions. Thus, we might look to future work identifying how the leadership role of governments in creating the social, cultural and regulatory frameworks – as well as forms of utilities and infrastructure that facilitate sustainable lifestyles. Similarly, there is a need to identify the drivers and outcomes that can orient the leadership practices of community organisations to a focus on building social capital – as an underpinning of natural capital – and on facilitating social learning for sustainability (Wals 2007, 2010).

Perhaps, a third concern might be about how the capacity for sustainability or eco-leadership can actually be developed and enhanced. The next section provides an example of one way in which this is being done and the integral theories of education upon which it is based. Barrett Brown (2013) has provided an excellent model and case study of the use of integral theory in enhancing the leadership skills of leaders through corporate coaching. A model is used in leadership coaching in Melbourne by Julie Birtles and her consulting firm, Beyond Excellence. To

parallel this work, the example provided here focuses on sustainability leadership development through a university program. The example is the Graduate Program in Sustainability Science (GPSS) at the University of Tokyo, Japan, and its Asian Program for Incubation of Environmental Leaders (APIEL), which has since changed its name to the GPSS Global Leadership Initiative (GPSS-GLI).

Developing/learning for transformative eco-leadership

With special funding from the Japanese government, the private sector and foundations, GPSS-GLI provides masters and doctoral education for future sustainability leaders from across the world. The program seeks to "incubate" environmental leaders who can resolve complex problems and may, in the future, play key roles as leaders in different sectors of society, including the private sector and NGOs, local and national governments, international agencies and local and regional communities. As a result, the objectives of the program include:

• To develop the capacity to recognize global and regional/local problems and propose solutions using not only specialized professional knowledge and skills, but also inter-disciplinary thinking and systemic approaches.

• To acquire a balanced understanding of the knowledge, skills, and ways of thinking of the humanities and social sciences as well as the natural sciences.

• To refine the ability to make judgments, take action, and work in partnerships to resolve real-world problems.

• To develop the communication and leadership skills necessary to raise topics for discussion and to negotiate issues in international as well as local situations (after Akiyama, Hanaki & Mino 2013: 3).

These objectives highlight how the GPSS-GLI program views leadership development as a complex psychological and social process for creating change agents in society (Akiyama, An, Furumai & Katayama 2013, p. 24). These aspects of what could be called the inner- and outer-journeys in personal and professional growth as a leader are based upon the integral theory of Ken Wilber (2000).

The word "integral" is similar to the notion of "holistic" which is common in sustainability writings to denote an entity or process in which all essential parts are present and integrated into a unified whole. Thus, Wilber (2003) notes that

The word integral means comprehensive, inclusive, non-marginalizing, embracing. Integral approaches to any field attempt to be exactly that: to include as many perspectives, styles, and methodologies as possible within a coherent view of the topic. In a certain sense, integral approaches are "meta-paradigms," or ways to draw together an already existing number of separate paradigms into an interrelated network of approaches that are mutually enriching. (p. xiii)

Central to Wilber's integral theory is the concept of quadrants, which provide four different lenses or worldviews for looking at the complexity of a whole (Figure 7). The concept of quadrant is one of five that Wilber uses to analyse and then synthesize complexity. Others include: lines, levels (stages), states and types, which are explained in detail in Wilber (2000). The concept of quadrant is introduced here as it is a central organising concept in the GPSS-GLI program. The four-quadrant framework sees "reality" as being both material and socially constructed and, thus, requires an examination of entities or processes s existing along two intersecting continua:

1. from an objective exterior expression to a subjective interior experience, and

2. from the individual experience and responsibility to the collective consciousness and responsibilities.

The intersection of these two continua produce four quadrants, each of which represents a different view of reality or way of knowing – with interweavings of meaning the closer one comes to the centre of the intersection. In terms of leadership development, the four quadrants provide a holistic – or integral – framing for both the study of sustainability issues and for personal and professional growth:

• *Individual/Interior*: The psychology of individual mindsets

• *Individual/Exterior*: The objective reality of individual behaviour

• *Collective/Interior*: The culture of shared values and experiences

• *Collective/Exterior*: Systemic influences of shared actions and structures (after Brown 2011).

In terms of an integral understanding of a sustainability issue, Brown (2006) uses the example of water to illustrate the breadth and significance of integral thinking:

• *Psychology* – memories of the experience of being in and around water

• *Behaviour* – personal bathing and washing practices

• *Culture* – the relationship between water and humanity and the rituals and social practices around its collection and use

• *Systems* – water cycles and riverine ecosystems.

No one lens provides a complete picture of water. Thus, no understanding of water, or attempt at sustainable water management, can be achieved without working through the interconnectedness of the perspectives represented by the four quadrants.

	INTERIOR	**EXTERIOR**
INDIVIDUAL	**PSYCHOLOGY** **"What I experience"** *Aspects of Reality Revealed* "I", subjective realities, e.g. self and consciousness, states of mind, psychological development, mental models, emotions, will. UL	**BEHAVIOUR** **"What I do"** *Aspects of Reality Revealed* "It", objective realities, e.g. brain and organism, visible biological features, degrees of activation of the various bodily systems. UR
COLLECTIVE	LL **CULTURE** **"What we experience"** *Aspects of Reality Revealed* "We", intersubjective realities, e.g. shared values, culture and worldview, webs of culture, communication, relationships, norms, boundaries, customs.	LR **SYSTEMS** **"What we do"** *Aspects of Reality Revealed* "Its", interobjective realities, e.g. social systems and environments, visible societal structures, economic systems, political orders, natural resource management.

Figure 7: The four quadrants in integral theory (Brown 2006: 5)

However, integral theory is more than a transdisciplinary approach to understanding sustainability. Significantly, it also recognizes multiple states and stages of consciousness – and it is here that integral theory is especially relevant to leadership and its development. Thus, integral theory can also be used to develop an approach to personal transformation and integration, which encourages individuals (or students) to systematically explore and develop multiple aspects of themselves, such as their physical bodies, emotional intelligence, cognitive awareness, interpersonal relationships, and spiritual wisdom.

Akiyama and Li (2013) provide an example of how these dual outcomes may be achieved. Figure 8 is a model of a field study program they facilitated for GPSS-GLI students in the catchment of the Heihe River, the second largest inland river in China. In terms of transdisciplinary learning, the field study led to the development of practical solutions to the land use conflicts that have arisen from the intensification of agriculture in the middle reaches and the consequent dramatic degradation of the lower reaches. This was based upon an investigation into the drying-up of more than 30 tributaries of the Heihe River, the loss of riparian vegetation, salinization and such extreme desertification that it is thought to be the origin of many of the dust storms and environmental health problems that are increasingly destabilizing urban governance in eastern China. The development and assessment of practical solutions to these problems led to significant knowledge, thinking, problem-solving and decision-making skills. However, the integral framework for the study also led to the development of significant leadership capabilities. As Figure 8 reveals, these include:

• *Enhancing individual mindsets*: Finding personal vision; capacity to engage in self- reflection and introspection; increased self-awareness and emotional intelligence; increasing self-esteem; self-confidence and accountability

• *Practising management skills*: Technical skills for independent research; facilitating communication, negotiating, and decision making

Upper Left Quadrant **Subjective: Personal, Intentional**	**Individual**	**Upper Right Quadrant** **Objective: Physical, Behavioural**

Upper Left Quadrant

Subjective: Personal, Intentional

Issues addressed: Personal awareness of environmental issues (water scarcity, establishing a water-saving culture, wetland degradation and vegetation degradation); personal attitude towards environmental preservation (construction of conservation parks).

Methodologies: Interviews with key informants (local residents).

Competencies: Finding personal vision; capacity to engage in self-reflection and introspection; increased self-awareness and emotional intelligence; increasing self-esteem; self-confidence and accountability.

Upper Right Quadrant

Objective: Physical, Behavioural

Issues addressed: Water-saving technologies (plastic sheeting, drip irrigation); irrigation facilities (dams, headworks, wells, irrigation channels, technological aspect); quantity and quality of water; changes in water balance.

Methodologies: Experiments; modelling; interviews with key informants (local researchers, government officials); site visits.

Competencies: Technical skills for independent research; facilitating communication, negotiating, and decision making.

Interior   **Exterior**

Issues addressed: Public awareness of environmental issues (water scarcity, establishing a water-saving culture, wetland degradation and vegetation degradation); public attitude towards environmental preservation (construction of conservation parks); disappearance of nomadic culture.

Methodologies: Questionnaires; interviews with key informants (local residents); collective visioning; group work (group discussions and group meetings, collaborative survey).

Competencies: Creating shared vision; valuing different perspectives; communication; listening; and interpersonal skills; observing and understanding the dynamics of different stakeholders; building trust.

Issues addressed: Water use and water management system (irrigation districts, irrigation network, water users' association, water use rights, tradable water quotas, water pricing); irrigation farming (crop selection); nomadic husbandry; environmental policies and implementation processes (release to lower reaches, introduction of water meters, introduction of new water use and water management system, relocation policy, wetland conservation).

Methodologies: In-house and on-site lectures provided by local researchers and government experts; interviews with key informants (local researchers, government officers, farmers, agricultural enterprises, nomads); group work (group discussions and meetings, collaborative survey); group-wide report writing; presentation meeting of research results to local policy makers.

Competencies: Problem solving; building a network with resource persons; inclusion, listening and using all available ideas and skills; proactive information dissemination; bringing local voices into decision making.

Lower Left Quadrant **Inter-Subjective: Cultural**	**Collective**	**Lower Right Quadrant** **Inter-Objective: Social, Systemic**

Figure 8: The integral framework used to develop leadership through a field study of water issues in the Heihe basin, China (Akiyama and Li 2013: 89)

- *Facilitating emotional Intelligence*: Creating shared vision; valuing different perspectives; communication, listening, and interpersonal skills; observing and understanding the dynamics of different stakeholders; building trust

- *Influencing systems and structures*: Problem solving; building a network with resource persons; promoting inclusion through listening and using all available ideas and skills; proactive information dissemination; bringing local voices into decision making. (Akiyama and Li 2013: 89)

Evaluations of the Heihi Basin field program indicate that students are enthusiastic about and very satisfied with the course. Akiyama and Li attribute this to the dual focus on investigating complex sustainability issues and leadership education in the integral approach they use (p. 91). Thomas (2011) attributes the success of integral programs such as the Heihe Basin one to the three types of dynamic leadership skills they develop: situational awareness, strategic approach, and action. Taking Thomas's ideas into learning for sustainability leadership, they involve:

- *Situational awareness* – This includes activities that develop: mental alertness and intuition; a search for an holistic, systemic understanding of the situation; a capacity to discern relevant relationships, linkages, gaps and implications; and the moral discernment to prioritize desired outcomes that serve the wider public interest as well as organizational objectives.

- *Strategic approach* – This includes learning activities associated with developing objectives and strategy to meet these desired outcomes. This involves developing the ability to determine not only what is important and needed in different contexts but also reflective practice in designing appropriate step-by-step activities and marshaling relevant resources.

- *Action* – This involves praxis – not just implementing the step-by-step activities but also the process of individual and group monitoring of progress, problems and constraints, objectives achieved, and unintended

consequences. Double-loop learning is the key to the reflexivity required for leadership praxis. Where single-loop learning would recognise any issues that arise in such monitoring and taking remedial action, double- loop learning seeks to trace the root causes of such issues and address the cultural and systemic factors (generally, the "collective" quadrants) that can optimize success and/or are constraints on progress (Lee 1993).

Conclusion

We began by examining the rise of sustainability thinking and its integration into what is now often called "conscious capitalism". This was followed by a brief definition of leadership and an overview of trait and social theory approaches to leadership studies. Transformational leadership and eco-leadership were elaborated as social theories of leadership most consistent with the systemic, ethical and learning dimensions of sustainability. This argument was made by contrasting "honey bee" and "locust" approaches to leadership. The final section provided an example of how capacities for

"honey bee" leadership are being developed and enhanced through the Global Leadership Initiative of the Global Program for Sustainability Science at the University of Tokyo.

In the development of the "honey bee" approach to sustainability leadership, the traditional model of the hierarchical leader with strong authority is replaced by the leader who works in a participatory team environment where goals are created through a collaborative and shared decision-making process. Such an approach is essential to leading in times of uncertainty and flux and where the science and evidence upon which decisions can be made are ambiguous. As a result, one analyst of this approach argues that its chief advantage lies in its suitability for

a world of complex interdependencies where we have to find new ways of leading complex organisations . . . [and] informal processes over which we can never expect to have traditional leadership authority. This is very much the environment where we are concerned with emergent change, where we are no longer leading change in a traditional sense, but creating the leadership capacity under which we can handle ambivalence and uncertainty. (Wooldridge 2008: 1)

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About the author

John Fien is Executive Director of the Swinburne Leadership Institute. He was educated at the University of Queensland (BA, PhD) and the University of London (MA) and, previously, was Professor of Environmental Education at Griffith University and Professor of Sustainability at RMIT. He has been a member of the Australian National Commission for UNESCO and led research, policy development and training projects for a number of state and national agencies as well as UNESCO, UNICEF, UNEP, WWF-International, the World Bank and the OECD.

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