Dynamic Leadership System Theory

Leadership

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Abstract

Leadership has been an important topic for most of recorded time. Stories of leaders and leadership have been chronicled from Moses in biblical scripture and Mohammad's recitation of the Quran to contemporary business leaders such as Rudolph Gulianni, former mayor of New York. These stories carried powerful messages for the followers and, more important, for the continuity of the organization in which they represent. The stories, also, vividly portray compelling rationale for change. Leaders lead followers to change.

Analysis of "leadership" often falls narrowly into topical areas of leader qualities, characteristics, personality, or behaviors examining specifically the leadership context such as power, politics, policies, and practices. However, leadership is not about isolatable aspects that are associated with the notion of leadership. Leadership is a system. Many elements must interrelated and mutually influence one another to result in the phenomenon called "leadership." As an example, what is a leader with no followers? What is opportunity without action? What is the characteristic of courage without a cause?

For proper analysis, then, each constituent element of leadership has to be examined. However, it is their interrelationship dynamic and the patterns that these form that is "leadership." Leadership, then, is not a set of qualities, characteristics, or behaviors. It is simply easier to speak in these terms. As this paper explores, leadership is a system, with all the inherent complication of dynamic interaction and pattern formation. Introduced here, the *Dynamic Leadership System 'A' Star Model* brings clarity to this. The 'A' Star Model includes, as the defining tip of each point on the star, the leader's capabilities to be "Aware," "Accept," "Attune," "Act," and "Align." Each in isolation is important, but it does not constitute

leadership. Leadership is bringing each into dynamic play that produces the text in which the

leader's story is written.

Contents

Introduction

Importance

Much has been written about leadership. A recent Internet search of ABI/Inform[1] of "leader" or "leadership" (words contained within the abstract) resulted in 280,501 "hits." Narrowing the search to those words appearing as "subject" narrowed the list to 23,377 articles. A review of the volume and rate of articles on leadership indicates both are being sustained[2] (see graphs at right). Why the interest in "leadership?"

The earliest writings center on leaders. We see evidence from biblical scripture to Greek, Latin, and Icelandic classics (Boulais, 2002) and across all historical eras and civilizations (Kanter, 1995). Moses was instructed to "bring My people, the children of Israel, out of Egypt" (Bible, 1984, Exodus 2:10) and Muhammad to "Recite in the name of your Lord who created" (reference to Quran 96:1 in Aslan, 2005). Both had crushing demands to lead thrust upon them, literally in the case of Muhammad[3]. While not necessarily divine in origin, many continue to be called to lead. From business (Kotter, 1997) to civil service (Giuliani, 2002), from politics, to military, from almost every area of society (Gardner, 1995), to the current reflections on the leadership of Pope John Paul II (Zelizer, 2005), the public seems eager to hear the leader's story.
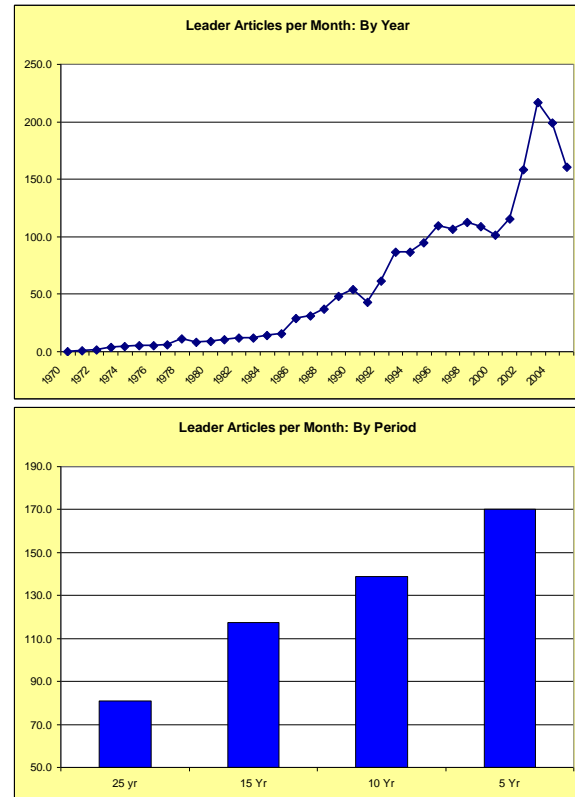
Leader's Story

Gardner (1995) contends that leaders lead by the stories they tell and, due to man's "primate heritage" (pp. 23-24), that followers are eager to internalize these stories. Leaders question, as Quinn (1996) suggests, the "unconscious map" that each of us have for behavior. Leaders seem to recognize that information is more readily incorporated when presented as story (Kouzes & Posner, 1987, p. 226), in that such symbolic communication creates clear images in the mind of the listener (R. E. Quinn, 1996, p. 125). Why are the leader and the stories they tell so important? The leader's story "whether it is in the form of a parable, legend, or even myth reinforces assumptions and teachers assumptions" (Schein, 1997, p. 251). Within an organizational context, Schein contends that stories communicate the values and beliefs of the leader and, thereby, as prescriptive device can act to indoctrinate followers (1997, p. 183). This is the leadership formula in any context. Gardner (1995) considers four components which explicate the leadership dynamic in which leaders emerge from the midst of followers in search of leadership: Our primate heritage (pp. 23-24), the "unschooled mind" (pp. 25-29), early socialization (pp. 24-25), and attainment of domain expertise (pp. 29-30).

Our primate heritage: The argument that Gardner builds relative to demonstrated behavioral being attributable to "primate heritage" has as foundation the research in evolutionary psychology (see, e.g., McElroy, 2005, 20-21, also Appendix 2). Many of the early human development researchers held an evolutionary point of view (see, e.g., Hothersall, 1990, James Baldwin, pp. 122-123, G.S. Hall, pp. 289-299), assimilating the ideas of Charles Darwin into their own (Charlesworth, 1992). Gardner's fundamental view, therefore, is not new. It is reflective of significant research. Central to Gardner's argument that "primate heritage is

actually fundamental to an appreciation of leadership" (pp. 23), rests on the twin pillars of man's instinct for dominance relationships and his inclination to imitate. Both served evolving man well as he organized in "family" units, cooperated for hunting and child-rearing, and survived life-threatening challenges. They did so by seeking and accepting leadership from the dominant group member, most notably those that clearly mastered the survival challenges. They, then, imitated the survival behavior of this dominant member. I previously explored this phenomenon. In that study (McElroy, 1999) I found that there are innate behaviors determined through thousands of generations of human evolutionary struggle. These behaviors have become "...imprinted in our nerves as innate automatic tendencies of the heart" (Goleman, 1995). We are "wired" to survive. Our cultural influences and "learned" behavior act as constraining and modifying influences on these ancient instinctual behaviors.

Psychological structure evolved giving rise to man's inherent behaviors. Such behaviors have been studied by human development researchers (see, e.g., Piaget, 1950). Goertzel (1995), argues that the notion of psychological structure as fundamentally expressed in Piagetan concepts and that of the non-linear differential equation based thinking of dynamic systems theory may be bridged by evolutionary theory (1995, p. 176). As he suggests, "it gives an abstract model of mental process according to which representation schemes and self-organizing dynamics can coexist and interact" (1995, p. 176). The is the theme of my previous research in leader development (McElroy, 2005).

The "unschooled mind": The foundational premise upon which rests the concept of the "unschooled mind" or "the mind of the five-year old" (see Gardner, 1995, pp. 25-29) is that man's basic notions of the world, the "scripts" that he plays by, are established early in life. Gardner pays tribute to Jean Piaget[4] and the recognition that individual's sense of reality is one

of their construct based on their sense organs and motor systems. Perception is reality (see expanded discussion in McElroy, 2003). Robbins states specifically of perception relative to expectancy theory (see Appendix 3), "reality is not relevant here; the critical issue is what the individual perceive the outcome to be, regardless of whether her perceptions are accurate" (2003, p. 52). This concept is powerfully explored in Maxwell Maltz' classic Psycho-Cybernetics (1960). As Maltz explains:

> Your nervous system cannot tell the difference between an imagined experience and a "real" experience. In either case, it reacts automatically to information which you give to it from your forebrain. Your nervous system reacts appropriately to what "you" think or imagine to be true. (1960, p. 32)

Sigmund Freud believed the same thing, stating "there are… two kinds of reality: actual and psychic" (Hothersall, 1990, p. 243).

The individual's "scripts" are cognitive patterns whereby the individual maintains a sense of reality and bases responsive behaviors accordingly. The brain is "fundamentally a pattern-forming, self-organizing system governed by nonlinear dynamical laws" (Kelso, 1995, p. 26). Gardner's argument, then, embraces this notion and contends that basic cognitive patterns are developed early in life. While developmental psychologists' view of the "unschooled mind" is one of psychological phenomenon of functional relationships (Goldhaber, 2000, p. 1), the underlying causative mechanism of neurological realignment (Cozolino, 2002) giving rise to cognitive patterns remains primarily aligned with classic principles such as reductionism philosophy (see, e.g., Shaw & McEachern, 2001b). However, neurological realignment may be dependent upon "new sciences" such as quantum mechanics and chaos or dynamical systems theory (see, e.g., McElroy, 2004b; McElroy, 2005). There is significant work in the area of "new

science" and brain function (for expanded discussion see, e.g., Schwartz & Begley, 2002;

Schwartz & Beyette, 1996; Stapp, 1993) that explore how the "unschooled mind" formed.

Early socialization: While some research in leadership suggests that a "marker" of leader

is courage (Bolt, 1996), Gardner contends that a marker of future leaders is one's capacity to

identify with a distant authority figure during the individual's socialization process (1995, p. 25)

or the "generous degree of linguistic intelligence" (1995, p. 34). Regardless of the specific

aspect, it is important to note that the early socialization process develops the leader's

personality, that which is most evident to followers and one of the most widely explored aspects

of leadership (e.g., Gardner, 1995, p. 16).

Contemporary theories of personality (Appendix 4) suggest that fundamental personality

styles are derived from early experiences (Blatt, S., & Levy, 1997). Blatt and colleagues suggest

that this early experience is that of the infant-caregiver relationship, establishing mental

representations of self and others from these early attachment patterns. These mental schemas

are "heuristic guides that organize experience, modulate effect, and provide direction for

subsequent behavior" (Blatt, et al., 1997, p. 354). This is the principle lens through which

Gardner's critical observation gains clarity:

> The relationship to their fathers proved crucial and quite problematic for most of
>
> the future leaders. Stalin's father beat him savagely; Hitler strongly condemned
>
> his tyrannical father for repeatedly beating his beloved mother.   Mao's
>
> relationship to his father was stormy, and spurning the Chinese filial tradition,
>
> Mao left home at an early age. While this group of totalitarian leaders defied their
>
> fathers and sought to carry forward their political leanings. Confirming a pattern

reported elsewhere, nearly all of the leaders were quite young when their fathers

died. In the absence of a surviving father, ambitious young males (and perhaps

young females as well) are challenged to take charge of their own and their

families' lives and to create their own moral (or immoral) code. (1995, p. 247)

However, personality is not the sole determinant of leadership capabilities (again, in stark

contrast to the bulk of leader literature, see Gardner, 1995, p. 16). It is, rather, "the mental

structures activated in leaders and followers" (Gardner, 1995, p. 17).

Attainment of domain expertise: The fourth element in Gardner's explication of

leadership is that of domain expertise (1995, pp. 29-30). It is well-expected by followers that

those proposing leadership bring an expertise to the endeavor, including an understanding of the

follower (Bardwick, 1996). There is a manifest psychological comfort, a demonstrative

confidence in one possessing such expertise. Quinn speaks to this concept relative to the leader's

confidence garnered through the attainment of a professional endeavor (1996, p. 77). This is the

center concept underlying the oft-referenced leadership characteristic of "competence" (see, e.g.,

Bornstein & Smith, 1996, pp. 283-284; Kouzes & Posner, 1987, p. 74).

Change

Fundamentally, "leadership" is about change, personally for the leader and within their

followers (see, e.g., Gardner, 1995, p. 15; Kotter, 1996). Leaders recognize this. They speak to

their personal best when they "innovate and change things" (Kouzes & Posner, 1987, p. xxiv).

Leaders begin with "self change" as they resolve life's issues in their own minds (Gardner, 1995,

p. 15), what Quinn calls the "hero's journey" (1996, pp. 41-49). It requires courage to leave the

comfort of known roles, behaviors, "life scripts," and "reinvent" one's self. While such change

is usually referenced in terms of changing behavior patterns (see, e.g., R. E. Quinn, 1996, p. 43),

there are, in fact, fundamental, underlying cognitive pattern shifts for such changed behavior

(see, e.g., McElroy, 2005and except in Appendix 1).

Leadership is about change in the system. Bornstein and Smith allude to the "system"

aspect when they speak of "collective action" which brings about significant change (1996, p.

282). Quinn is more specific when he explains that leaders "change the larger system" (1996, p.

xii). This paper introduces a dynamic systems model specifically designed for leadership:

Dynamic Leadership System 'A' Star Model.

Systems Perspective

Background

To qualify as a system it must display continuity of identity and goal directedness

(Skyttner, 1996). This, in a material-sense, foreshadows sociological-centered systems aspects.

Talcott Parsons suggests "functional prerequisites" for a social system, including goal attainment

(Osborne & Van Loon, 1999). Skyttner list ten properties of systems as he discerns them from

General Systems Theory (1996, pp. 4-5):

1. Interrelationship and interdependence[5];

2. Holism;

3. Goal seeking;

4. Transformation process[5];

5. Inputs and outputs;

6. Entropy;

7. Regulation[5];

8. Hierarchy;

9. Differentiation;

10. Equfinality and multifinality[5].

Systems Definition

There are many definitions for systems. Bertalanffy defined it as "complexes of elements standing in interaction" (1969, p. 33) and, in later works expanding the interaction to include the environment, "a set of elements standing in interrelation among themselves and with the environment" (1972, p. 417). Some define systems more broadly. As Weiss suggests, a system is "anything unitary enough to deserve a name," and Boulding as, "anything that is not chaos" (Skyttner, 1996). Most, however, subscribe to Bertalanffy's basic definition. Miller defines system as "a set of interacting units with interrelationships among them," Parsons as "a general or fundamental property of interdependence of parts or variables," and Hall and Fagen as "a set of objects together with relationships between the objects and between their attributes" (Bailey, 1994). Kenneth Bailey, founder of Social Entropy Theory, suggests that there are distinct similarities in the various definitions of system (Bailey, 1994). They are:

1. Specify some basic units of the system;

2. Specify connections;

3. Specify or imply that relationships are nonrandom;

4. Allow the existence of boundary;

5. Allow or presume existence of environment outside of the boundary.

Concept

The emergence of complex systems brought about the realization of the need for new scientific thinking (Banathy, 2004), constituting, in General Systems Theory, as suggested by Bertalanffy, a "second industrial revolution" (1969, p. 4). It is a "reorientation of scientific thinking" (1969, p. 5), and a "broad shift in scientific perspective" (1969, p. 17). While Newtonian physics searched deeper into the elemental constituent parts (Feynman, 2001; McElroy, 2004b; McEvoy & Zarate, 1996; Polkinghorne, 2002; Stapp, 1993), the emerging world-view from modern physics can be characterized as organic, holistic, and ecological (Mandel, 2004). It embraces, then, the whole.

General science, however, can be characterized as ever-increasing specialization (Banathy, 2004), split into innumerable disciplines (von Bertalanffy, 1969), suffering from excess fragmentation and over-specialization, "hyperspecialization" (Bailey, 1994). This is reflected in leadership studies that narrowly focus on power, policies, audience, and personality (Gardner, 1995, p. 16). Many similar problems and, consequently, similar discoveries were duplicated among these "isolated" disciplines, "encapsulated in their private universe" (Banathy, 2004, p. 2). This was a primary concern for Bertalanffy. He believed that one could transfer principles from one field to another so that it would no longer be necessary to duplicate the discovery of the same principles in different fields (Mandel, 2004, p. 3). It is fully embracing this notion that I introduce by the Dynamic Leadership System 'A' Star Model. One of the chief goals of systems theory is to expose and avoid such duplication of effort (Bailey, 1994; von Bertalanffy, 1969). Other goals of systems theory include, as espoused by Bertalanffy (1969, p. 38):

1. Integration in the various sciences, natural and social;

2. Such integration to be centered in general theory of systems;

3. Such theory may be an important means of aiming at exact theory in the

   nonphysical fields of science:

4. Unity of science;

5. Integration in scientific education.

Current State

Discussion in the 1950s and 1960s, relative to the importance of systems, referenced "enormous strides" in physics (see von Bertalanffy, 1969, pp. 5-6), namely quantum mechanics. While quantum mechanics deals primarily with single "quantum elements" (see Feynman, 2001; Schwartz & Begley, 2002, pp. 284-286; Stapp, 2001), it leaves unexplained the relationship with other quantum elements. Some argue that this realm of exploration "falls naturally in line with… sciences in which a regular pattern blends with their evolutionary history" (see von Bertalanffy, 1969, pp. 5-6). Further research, then, will have to explore the possibility of quantum systems. A basic question that should be addressed in such research: Could "self-organization" display the basic principles of a "quantum systems?" In that systems trigger behavior at critical junctures and, once they have done so, cannot return to their original pattern (von Bertalanffy, 1969, p. 9), could the employed mechanism be the collapse of the probability wave determining the system state as prescribed by quantum mechanics? Could the classic wave-particle paradox demonstrated by the double-slit experiment (see Appendix 5) be explainable in quantum systems theory?

Dynamic Leadership System Model: 'A' Star is Born

Analysis of "leadership" often falls narrowly into topical areas of leader qualities, characteristics, personality, or behaviors examining specifically the leadership context such as power, politics, policies, and practices (Gardner, 1995). They argue that there are qualities that constitute a "de facto set of core leadership competencies" that remain constant throughout time and across domains (Decrane, 1996, p. 250).   Some suggest that leadership is, by definition, a set of role behaviors (Mendonca, 2001). It is interesting to note, however, that some contend that leadership experts cannot agree on what a leader competency is, and further that to suggest that there is such a thing as a defined set of leadership competencies is heresy (Bonnstetter, 2000). That is because leadership is not about studying isolatable aspects, no more than the study of white water rafting is isolatable to a study of water's molecular makeup. Leadership is a system.

Many elements must be in interrelationship and mutually influence one another to result in the phenomenon called "leadership." As an example, what is a leader with no followers? What is opportunity without action? What is the characteristic of courage without a cause? They are certainly not leadership.

D y n a m i c L e a d e r s h i p S y s t e m
'A ' S t a r Mo d e l

Aware

Align   Accept

Act   Attune

For proper analysis, then, each constituent element of leadership has to be examined. However, it is their interrelationship dynamic and the patterns that these form that is "leadership." Leadership, then, is not a set of qualities, characteristics, or behaviors. It is simply easier to speak in these terms. As this paper explores, leadership is a system, with all the

inherent complication of dynamic interaction and pattern formation. I depict the systems concept

of leadership, as proposed in this paper, as the Dynamic Leadership System 'A' Star Model. The

'A" Star model includes, as the defining tip of each point on the star, the leaders capabilities to

be "Aware," "Accept," "Attune," "Act," and "Align." Each in isolation is important, but it does

not constitute leadership. Leadership is bringing each into dynamic play that produces the text in

which the leader's story is written.

Aware

The seed of leadership is planted in need, in great challenges, opportunities, and causes.

It is the stuff of legend (Boulais, 2002). In a systems perspective, as suggested by this paper, this

is reasonable. What, after all, is leadership void of cause? It is empty rhetoric. Whether causes

of "perceived-inequity" or "search-for-excellence" (Work, 1996, p. 74), the leaders profiled in

Garnder's (1995) study were alert to the circumstances in which they found themselves. Eleanor

Roosevelt serves as apt model for this, embracing many causes (see, e.g., Gardner, 1995, p. 197)

as does Martin Luther King, alert to the fact that he was "propelled" into a position of influence

in the civil rights movement of his day (see, e.g., Gardner, 1995, p. 223).

Leaders sometimes find themselves "surrounded by circumstances that seem to demand

more than… [they could] deliver," as Quinn (1996, p. xiiii) describes such circumstances.

Leaders are borne of such demanding causes (Handy, 1996); "perhaps none of us knows our true

strength until challenged to bring it forth" (Kouzes & Posner, 1987, p. 322). This was Eleanor

Roosevelt's belief underlying her statement, [in accepting the challenge] "do the things that we

think be cannot" (Kouzes & Posner, 1987, p. 66). As Quinn suggests, these are terrifying

choices (1996, p. 3). This, too, is suggestive of a system dynamic. The interrelationship of

challenge and the inherent capabilities of the leader, borne of the circumstance, directly

contribute to the creation of the recognizable pattern that is leadership. It is these two elements

in interaction that we study in leadership, as Gardner (1995) did in *Leading Minds*.

Leaders as "pioneers" (Ulrich, 1996), engaged in "pathfinding" (Covey, 1996) are alert

for opportunities to lead. Bardwick suggests that the leader may understand the issues better than

anyone else (1996, p. 138). Kouzes and Posner suggest that leaders "must use their 'outsight'

…staying sensitive to external realities" (1987, p. 45). A pallet rich with such language paints a

vivid picture of a leader on the lookout for a chance to lead. Often the leader does seek out such

opportunities; however, other times "challenges seek out the leader" (Kouzes & Posner, 1987, p.

53). It is the dynamic of leader awareness of a cause and the emerged leader capabilities relative

to that cause that forms the first point of the of the Dynamic Leadership System 'A' Star Model.

Accept

What is leadership without acceptance of the task at hand? It is untapped potential. As

explicit in religious studies, we know that the leader's acceptance of the leadership positions can

be difficult. Moses was adamant that he was not suitable for leadership, even questioning God's

rationale ((Bible, 1984, Exodus)). Mohammad, as prophets before him, wanted nothing to do

with God's calling (Aslan, 2005, p. 37). He was so despondent about the God's command for

him that his first thought was to kill himself. Fortunately for two of the world's great religions,

these leaders ultimately accepted leadership with great conviction.

Acceptance is critical in the leadership dynamic. We recognize in more contemporary

leaders the importance of great conviction of acceptance. Gardner illustrates this in many

leaders, especially Eleanor Roosevelt who's effectiveness is attributable, in part, to her

conviction, her acceptance of her role (Gardner, 1995, p. 197). The leader's acceptance seems to energize them, adding, continuing our systems perspective, energy to the system.

As I explored in *The Development of Organizational Leaders: A Dynamic Systems Perspective of Workplace Cognition* (2005), physical action requires the organization of such diverse sub-systems as the body's physiological, neurological, and cellular. The key condition by which this is accomplished is in the process of energy flow. It is the same in the Dynamic Leadership System explored in this paper. Thelen and Smith (1994) explain, as Bertalanffy (1969) argued in the 1960s, that biological systems defy the second law of thermodynamics[6]. Referencing Prigogine and Stengers (1984), they explain that dissipative structures maintain equilibrium by drawing energy from a high-energy potential, using it to do work, and then dissipating some the energy back into the environment. Systems, as Kelso explains (1995, p. 4), that are in a state of thermodynamic equilibrium are "as dead as anything can by." These "living" complex systems meet two criteria:

1. system components can interact in nonlinear and nonhomogeneous fashion;

2. in accordance with dissipative dynamics these systems exists far from thermodynamic equilibrium.

External conditions with sufficient energy drive a system from equilibrium. The resultant end state is, then, a drastically altered macroscopic state of the system. As Kelso defines, self-organization is "the spontaneous formation of pattern or pattern change that arise due to nonlinear interactions among the components of a system" (1995, p. 260). The self-organized end state is a function of the collective action of the individual elements until their behavior dominates and governs further behavior. This is supported by Kelso's research (1995). He

explains that the coordination of the constituent parts of a system will, in turn, feed back and influence the behavior of the parts. Kelso refers to this as "circular causality" (1995, p. 10).

The next point in the *Dynamic Leadership System 'A' Star Model* is "Accept," a critical element in the systems model.

<center>*Attune*</center>

The leaders presented in Gardner's (1995) study prepared themselves and their constituency for the task at hand. As mentioned earlier, Maxwell Maltz (1960) taught that both imagined and lived experiences are treated equally as true by the brain, it reacts automatically to provided information. The leader, perhaps unknowingly, uses this concept as they "reinvent" themselves and prepares the followers through a shared vision. They are creating as true a shared vision for the future, both will accept and act on this created vision. What, after all, is acceptance without attunement? It is wishful thinking.

Reinvent Self

Leadership is learned by doing or watching (Stringer & Cheloha, 2003) or, as Kouzes and Posner suggest, it is "an observable, learnable set of practices" (1987, p. 16) (see also Hesselbein, Goldsmith, & Beckhard, 1996, p. xi). There is great importance on the leader changing self in order to change the greater system. Quinn (1996) suggests that self-change is necessary before leading change in the organization (p. 156), the culture (p. 103), or the world (p. 9). Leaders are frequently referenced relative to how they "reinvent" themselves in preparation for leadership (R. E. Quinn, 1996, p. 11, 66) (see e.g., Gardner, 1995, p. 185 relative to Eleanor Roosevelt and M.L. King).

As mentioned previously, such reinvention comes about in the process of resolving life's issues (Gardner, 1995, p. 15), what Quinn calls the "hero's journey" (1996, pp. 41-49). Leaders repeat "core stories" that are central to their emerging identity (R. E. Quinn, 1996, p. 67). It requires courage to leave the comfort of known roles, behaviors, "life scripts," and "reinvent" one's self. While the "reinvented" self is usually referenced in terms of changing behavior patterns (see, e.g., R. E. Quinn, 1996, p. 43), there are, in fact, fundamental, underlying cognitive pattern shifts for such changed behavior (see, e.g., McElroy, 2005and except in Appendix 1). Leader's self reinvention, then, is an outwardly observable change of internal cognitive function, how the leader thinks relative to themselves and the tasks they have.

Vision

Leaders "reflecting upon our past may enhance our ability to be forward-looking" (Kouzes & Posner, 1987, p. 107) illustrates Gardner's (1995) concept of "stories" and the need to address the concerns of "past and future" (p. 50). Leaders, perhaps subconsciously, construct a visionary story by which they lead (see, e.g., Kotter, 1997, pp. 197-209). As Kouzes and Posner contend, "past is prologue" (1987, p. 106) in that ones ability to envision the future is, in part, a reflection of past experience. This vision of what is possible centers the follower on "what we're here for, what our priorities are, and where exactly we're headed" (see also Kotter, 1996; McFarland, Senn, & Childress, 1994, p. 111). Through their vision leaders help their followers "dream new dreams" (R. E. Quinn, 1996, p. xii), to see what is possible, orient themselves accordingly, and to "struggle for the shared vision" (Kouzes & Posner, 1987, p. 30). The leader's vision paints a clear picture of things doable, powerful, and believable (Kotter, 1996).

Establishing direction, aligning and energizing the people is a fundamental element of the

Dynamic Leadership System 'A' Star Model.

Act

Change

Leadership is inextricably connected to change (Kotter, 1996; Kouzes & Posner, 1987),

or some contend actually a "mastery over change" (McFarland, et al., 1994, p. 185). Some

suggest that the very definition of leadership has to include the concept of causing significant

change (see., e.g., Bornstein & Smith, 1996). In accordance with the systems model introduced

in this paper, this seems reasonable. What, after all, is leadership if it does not lead to change? It

is Don Quixote jousting at windmills. As an example, given the great cause of civil liberty and

the powerful vision provided, would Martin Luther King be heralded today as a great leader if

his work had not initiated equally great change (see, e.g., Gardner, 1995, pp. 203-221)? No, as

suggested by General Systems Theory (see, e.g., von Bertalanffy, 1969; von Bertalanffy, 1972),

where all system elements are in interaction creating new system behavior patterns, and the 'A'

Star Model where all leadership elements are dynamically interrelated.

Empowerment

The very concept of "system" suggests that the leader cannot act alone. The leader is but

one element in a dynamic, interrelated system. Others must be involved in the enterprise. This

concept takes on many titles in leadership literature. Some refer to it as "participatory

management" (dialogue with Reuben Mark in McFarland, et al., 1994, pp. 68-69) or

"decentralized leadership" (dialogue with James E. Burke in McFarland, et al., 1994, pp. 77-78).

Quinn speaks to "empowering' others (1996, pp. 221-228), Kouzes and Posner to "enabling"

others (1987, pp. 151-178), and Conger, et al   as "shared ownership" with others (1999, p. 358).

All, however, give voice to the same underlying concept: Leaders bring followers into action in

order to achieve change (see "empowerment" discussion in Kotter, 1996). This shift from

"position power" to "people power" is founded on the idea that the followers are closest to the

situation and know how to handle it (see, e.g., McFarland, et al., 1994, pp. 63-92). It, then,

recognizes the expertise that exists within the constituent elements of the system. It also reflects,

again in accordance with General Systems Theory and as mentioned earlier in this paper, the

foundational principle that the system's end state is a function of the collective action of the

individual elements until their behavior dominates and governs further behavior. One can expect

that while "position power" may elicit response, the system behavior will not be as sustainable as

that when the followers have a respected position within the system (*i.e.*, system's self-

organization). This is a notion supported by Kouzes and Posner (1987) when they suggest that

followers be given ownership of and responsibility for their work (p. 181). Jack Welch

expressed a stronger position on empowerment and the fundamental responsibility of followers

to accept it when he stated, "If you need a boss, you should have joined the post office"

(McFarland, et al., 1994, p. 79).

There are two fundamental issues relative to employee empowerment that must be

successfully addressed: The leader's ability to affect such a shift in "ownership" and the

competencies of the followers brought in to "share" leadership. McFarland *et al* suggest that

leaders, to engaged in empowerment, only need to "realize" the need (1994, p. 84). However,

realization alone will not promote development and its associated improved cognitive ability;

fundamentally, realization alone cannot shift cognitive patterns as necessary to effect the

necessary belief change and, therefore, behavior. If such realization were enough psychotherapy

would be a much easier task (see, e.g., Cozolino, 2002). Significant research suggests that these

cognitive patterns (which are fundamentally the physical manifestation of brain activity

underlying psychological states) may be altered (see, e.g., Kelso & Zanone, 2002; Thelen &

Smith, 1994). Some contend that such shift may be self-initiated by the conscious act of the

individual (see, e.g., Schwartz & Begley, 2002; Stapp, 1993). No research reviewed for this

paper suggests that "realization" *per se* is enough to provide a psychological state that would

reasonably be expected of an individual to shift a long-held behavior (e.g., that of not

empowering followers). There has to be effective leadership development in order to change

long-held beliefs relative to the roles and responsibilities of the leader. This is the concept which

I explored in *The Development of Organizational Leaders: A Dynamic Systems Perspective of*

Workplace Cognition (McElroy, 2005).

The second fundamental issue relative to empowerment is the requisite

capabilities of the followers. As McFarland *et al* (1994) contend, while empowerment may be

"triggered" by the leader-provided vision (p. 100), realization of empowerment is a function of

educated people (p. 67). Gardner (1995) supports this notion when he states that viable members

must themselves attain a level of expertise within the domain (p. 30). This, also, is supported by

the systems perspective introduced in this paper. General Systems Theory calls for non-inert

elements. Each constituent part acts in energy-exchanging interrelationship. The vital

constituent elements of the whole must, in themselves, posses contributing energy to the

relationship. Here, when discussing the dynamic leadership system, it is critical that the follower

as constituent element in the system is able to fully contribute, in this case through a domain

expertise.

Risk

Gardner (1995) recognizes that basic behaviors exhibited by leaders is taking risk and challenging authority (p. 75) (see, also Pollard, 1996, p. 241). History suggests that leaders do not accept the status quo, but rather, as Quinn recognizes, "take some significant risk" (1996, p. 5). This is repeatedly revealed in Gardner's (1995) examination of great leaders. There, as an example, he chronicled how Martin Luther King accepted the ultimate risk, death, in order to continue leading the civil rights movement of the 1960s (pp. 218-219). Challenging authority, some suggest as a "marker of leadership" (Gardner, 1995, p. 25), reflects that "waiting for permission is not a characteristic of people who get extraordinary things done" (Kouzes & Posner, 1987, p. 251). Quinn (1996) suggests that the leader's ability to take risk is linked to their self-confidence. This seems to be the foundational leadership trait involved when authors speak relative to risk taking that the leader has to do so "willing" (Gardner, 1995, p. 74) and be "not afraid" to do so (dialogue with Rieva Lesonsky in McFarland, et al., 1994, pp. 187-188).

Align

The last point of the Dynamic Leadership System 'A' Star Model is that of "align." Reflective of the Dynamic Leadership System 'A' Star Model, to "Accept" a cause and "Act" without "Aligning" followers is like charging into battle alone. All of the constituent elements of the 'A' Star Model must be in play. Ultimately, leadership is a relationship (Kouzes & Posner, 1987), bonded by the common needs of the leader and his/her followers (Gardner, 1995). To influence the behavioral patterns of the leadership system, leaders will need to align followers to the envisioned end-state.

Communication

Leader communication with followers is central to the notion of effective leadership (Kotter, 1996). Gardner (1995) explores this in-dept in *Leading Minds*, framing such communication as "stories."   Others hold the same view. Experts recognize that leadership is maintained through the creative (Gardner, 1995) and ritualized (R. E. Quinn, 1996) telling of core stories. Kouzes and Posner contend that doing so must be accomplished with "vivid language and an expressive style" (1987, p. 11). Quinn (1988) expands this notion holding that "symbolic communication" creates vivid mental images for the follower (p. 125). Such emotion-laden language most probably touches the heart of the "self-identity" issue that Gardner speaks to relative to the leader's stories (see earlier section, "Leader's Stories") and as Kouzes and Posner (1987) suggest, "our need to survive" (p. 39). Through communication leaders flame the fire of emotion not solely walk the icy logic of the intellect.

Model

Gardner (1995) suggests that "telling" a core story is important; however, "embodying" it is critical. This notion is supported by all reviewed leadership authors. Relative to this, Quinn speaks to what leaders are – "role models" (1988) and Kouzes and Posner to what leaders do – "model the way" (1987, p. 13). The old adage, "walk the talk" captures this notion. Quinn (1988) contends that it is the leader's actions, not words, that ultimately sends the follow a message. Kouzes and Posner suggest that there is power in the leader's example (1987, p. 220) echoing Stephen Covey's assertion that leader's live their best value system "so they are very powerful models and mentors (McFarland, et al., 1994, p. 194).

Implications:

Dynamic Systems and Leader Development

If, as introduced in this paper, leadership is a system then leadership development practitioners must embrace the notion, altering material and delivery as appropriate. It is a large undertaking.

It is recognized that "leadership" is learnable (see, e.g., Hesselbein, et al., 1996; Kouzes & Posner, 1987). It is also believed that the current state of leadership development is inadequate (Bonnstetter, 2000). Leadership development is typically embedded in MBA courses (R. E. Quinn, 1996), where foundational educational concepts were developed in the 1950s (Leavitt, 1989). Half a century later these concepts require updating. It is interesting to note that the contradictory notions that leadership can be learned yet the development programs are inadequate are occurring at a time when leadership is becoming more important (Boulais, 2002; Mendonca, 2001). It seems reasonable, then, to call for improved leadership development. I certainly do so here. Given the typical leadership development curriculum, expanding development capability to a degree necessitated by the growing need for leadership would be daunting. However, it is even more challenging given the concepts introduced in this paper.

There are two foundational additions needed to strengthen the framework of leadership development programs: a systems perspective and a cognitive development perspective. The study of systems is typically relegated to the realm of engineering or physics (von Bertalanffy, 1969). While it has recently advanced into psychology (McElroy, 2004a, 2004b, 2005), it is rarely seen as a course in business or leadership. However, systems knowledge will prove critical to tomorrow's leaders. Business schools will have to embrace this.

Similarly, leadership is typically explored within the realm of behavior or personality (Gardner, 1995). It is, then, too abstract and, within the context of concepts introduced here, of marginal value. It is recognized that behavior is a physical manifestation of an underlying cognitive pattern representing a psychological state. Proper leadership development, then, will have to embrace this notion, as well. It appears that the leaders profiled in Gardner's study achieved this cognitive pattern shift and, therefore, their altered beliefs and attitudes as a function of life experiences. This will, no doubt, continue. However, if leadership importance is growing as suggested, society cannot rely on what is essentially luck in the happenstance circumstances of life. Leadership development programs will have to be proactive.

Perhaps in the future courses centered on leader behaviors, qualities, characteristics, and personality will be history courses providing a perspective of past leadership development. Some suggest that 2000 years from now the current concentrated focus on leadership competencies may be seen as "the 21st Century version of the Dark Age's pursuit of the Holy Grail" (Bonnstetter, 2000). Future leadership development may have systems theory core course work reflecting that found today in university Physics Departments and incorporating workshops reflective of psychotherapy.

I encourage further research in the area of dynamic leadership systems and the cognitive development of leaders. The emerging knowledge of both should be fully integrated into tomorrow's leadership development programs.

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Appendices

Appendix 1, Leader Development: A dynamic systems model

Individuals are theorized to have some element of control over this process within their own cognitive dynamical system (see, e.g., Abraham, 1995, pp. 46-47). As previously investigated (McElroy, 2004b), psychotherapy is therapist-facilitated focused mental effort bringing about brain changes and, thus, relief of psychological symptoms (Cozolino, 2002). These statements follow recent research that proves that the brain has the ability to physiologically change. It is now accepted that the adult brain can change, or exhibit neuroplasticity (Cozolino, 2002; Kolb, 1995; Satinover, 2001; Schwartz & Begley, 2002; Schwartz & Beyette, 1996; Stapp, 1993). Neuroplasticity is a fundamental property of neurons and the nervous system (Shaw & McEachern, 2001a). Researchers content that it is manifest in the ability of neurons to change the way they behave and relate to each other (Cozolino, 2002) and make new connections (Schwartz & Begley, 2002) including the process of dendritic arborization (Kolb, 1995, 2003; Kolb & Whishaw, 1996). Some researchers suggest that neuroplasticity includes synaptogenesis (Manji, Quiroz, & Gould, 2003) and increased synaptic remodeling, efficacy and new synaptic connections (Manji, et al., 2003; Tinazzi, Testoni, & Volpato, 1998). Further, some believe that it includes an increase in the number of neural receptors and the activity of postsynaptic channels (Kolb, 2003), and enhanced long-term potentiation (LTP) (Manji, et al., 2003). The brain, then, can rewire. Such altered electro-chemical changes in the brain may give rise to the ability to dynamically form new brain patterns and, thus, behavior.

Dynamic Leadership Systems Theory

Significant research in obsessive compulsive disorder (OCD) demonstrates the practical application of the underlying foundational theories of Stapp (1993), Kelso (1995) and Thelen and Smith's (1994) (see, e.g., Schwartz & Begley, 2002; Schwartz & Beyette, 1996). Other disorders are being examined relative to these theories, such as post-traumatic stress (Department of Defense, 2003), brain injury (Katz, Victor, & Purpura, 1995; Kolb, Gibb, & Gonzalez, 2000; Robertson & Murre, 1999), alzheimer's disease (Neill, 2001), emotional distress (Davidson, Jackson, & Kalin, 2000), and mood disorders (Manji, et al., 2003). For scholar-practitioners interested in the cognitive development of workers within organizational settings undergoing change, it seems appropriate to build on the foundational research in such psychological dimensions as those just mentioned.

Macroscopic behavior (individual, group, organization, and social) is a function of microscopic systems dynamics (consciousness, belief system, supporting neural networks, brain activity, and cognitive patterns). Fundamental change, then, is not a function of forced behavior modification, but rather facilitated cognitive realignment.
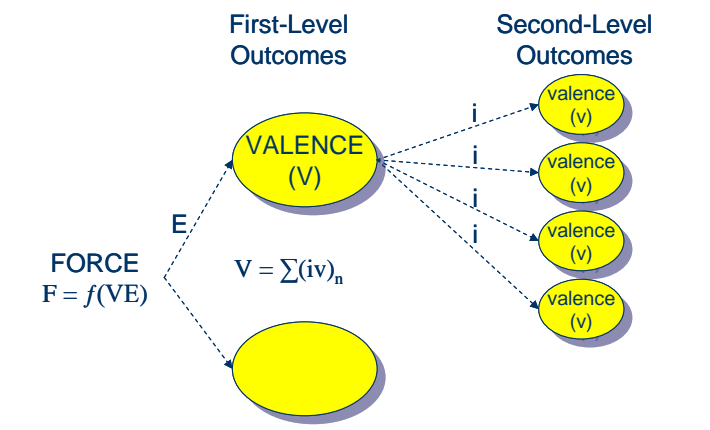
Dynamic Leadership Systems Theory

Appendix 2, Evolutionary Psychology

As previously researched (McElroy, 2005), we know that the brain evolved in accordance with a specific scheme to adapt action and behavior, not to merely register representations (see, e.g., Kelso, 1995, p. 268). Some support Goertizel's (1995) assertion in that they believe that evolutionary psychology does not replace but is adjunct to other theoretical perspectives (see, e.g., Blasi, 2003). It is know that the evolutionary experience of the brain is unmatched, increasing by some five times its estimated original size (see, e.g., Kolb & Whishaw, 1996, p. 24). It seems, as previously mentioned, that such evolution had a distinct rationale: Adaptive behavior. There is a contemporary intertwined argument of neuroscience, classic developmental psychology and dynamic systems based cognitive development. It seems prudent if one is to understand human development then one must have a foundational understanding of the interrelationship of cognitive developmental psychology and dynamic systems.

Appendix 3, Expectancy theory

Expectancy theory is considered the "most comprehensive explanation of motivation" (Robbins, 2003, p. 52), "holding a major position" (Van Eerde & Thierry, 1996, p. 575) in the study of motivation. Unlike most other previous theories, significant research evidence supports this theory (Ambrose, 1999; Robbins, 2003; Van Eerde & Thierry, 1996). Development of the first complete version of this theory is attributed to Victor Vroom, psychologist, who theorized that "motivation is determined by the outcomes that people expect to occur as a result of their actions on the job" (Johns, 1981, p. 163). More explicitly, he theorized that the strength of one's motivation and resultant force applied (F) is a function of the expectancy (E) held that a "first-level" outcome can be achieved, the instrumentality (I) or probability that

Table 7. Expectancy Model

the first-order outcome will result in a particular, valued second-level outcome, and the "valence" (V) or value of that outcome. This theory, understandably enough, is also referred to as Vroom's VIE model (Valence-Instrumentality-Expectancy model). It suggests "bottom-up processing" whereby "incoming environmental stimuli influences actors' cognitions and actions directly" (Stajkovic & Luthans, 2003, p. 4) (versus a "top-down" using long-term memory to trigger actions with previous success history). Vroom's model is graphically illustrated in Table 7. Johns explains the theory this way, "people will be motivated to engage in those work activities that they find attractive and that they feel they can accomplish. The attractiveness of

Dynamic Leadership Systems Theory

various work activities depends upon the extent to which they lead to favorable personal

consequences" (1981, p. 165). Most students of expectancy theory ascribe to this basic notion

(Robbins, 2003). Fundamental to the expectancy model is one's beliefs (Johns, 1981).

Appendix 4, Personality

Many believe that the contemporary study of personality began with the 1937 effort of Gordon Allport and H.S. Odbert. In their review of personality they identified 17,953 words describing personality referenced in an English dictionary (Kalat, 1993). They further reduced this initial extensive list to 4,505 (removing redundancies, evaluative words, synonyms, etc.), to finally develop clusters of 35 personality traits. Using factor analysis, Allport and Odbert finally established what has become know as the "Big Five" personality traits (Kalat, 1993; Zuckerman, 1993). This system is considered today the best paradigm for personality structure (Zuckerman, 1993), and is widely accepted as the fundamental dimension of human personality (Dictionary, 2003).

Model: Conventional Big-Five. According to Kalat (1993):

1. Neuroticism: Tendency to experience unpleasant emotions relatively easily.

2. Extraversion: Tendency to seek new experiences and to enjoy the company of other people.

3. Agreeableness: Tendency to be compassionate toward others and not antagonistic.

4. Conscientiousness: Tendency to show self-discipline, to be dutiful, and to strive for achievement and competence.

5. Openness to experience: Tendency to enjoy new experiences, especially intellectual experiences

Appendix 5, Double-Slit Experiment

The classic double slit experiment is simple enough to mentally arrange, to imagine. The results of the experiment, however, defy common logic (and, similarly, what school children are taught in entry-level physics). The result is an exhibited "wave/particle duality." To ensure understanding of the phenomenon we will need to review tenets of classic physics relative to such an experiment. Classic physics dictates that, given the experimental arrangement of an electron gun firing at a screen containing two vertically-arranged slits (one above the other) which rests immediately before a detector screen, will yield a familiar bell-shaped distribution pattern. The

Double Slit Experiment
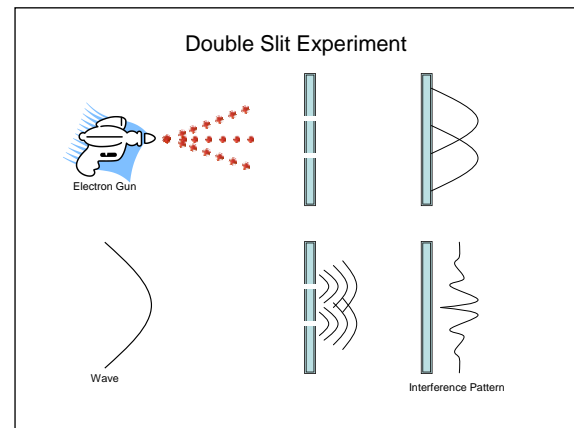
electron gun, randomly firing, will propel electrons with trajectories that will have various angles of entry into and through the slits. It will, as well, provide trajectories that will propel electrons into the first screen, stopping the electron from continuing its journey beyond the first to be detected, as the others, on the second screen. Electrons passing through each of the slits will be collected on the second "detector" screen, leaving a mark (depositing their energy). Over time, these accumulated electrons will exhibit a typical statistical bell-shaped curve immediately past the points of entry. Similarly imagined, our source of energy can be a wave that moves toward our first screen with the two slits. As basic physics suggests, the wave will develop corresponding wave action just past the slits (the openings through which the wave flows). These resultant waves on the backside of the first screen will continue to traverse toward the second detector screen widening, dispersing as they go. It is during their travel to the second

Dynamic Leadership Systems Theory

screen that, as witnessed countless times on sea-side vacations, the waves will meet, interact, and disrupt the initial wave formation. They create an "interference" patter. The peaks of some of the waves will meet and combine creating a stronger, higher wave. Some, conversely, will be timed such that the troth of one will interact with that of another essentially eliminating the wave. There are, of course, a myriad of combinations between these two extremes. The energy waves will create an interference pattern. However, it is not what experiments of quantum elements reveal.

Now imagine the electron gun, firing single electrons, timed as to allow each individual electron ample time to traverse the space between the electron gun and the double slit screen and, then, on to the detector screen where it departs its energy, its arrival recorded. Only upon detection of the arriving electron will the gun fire again, sending another single electron through the same exercise. What might one see at the end of the experiment? What might the detector pattern reveal? Counter intuitively we would find at the end of the experiment that the independent electrons have imparted their energy on the detector screen in such a manner as to create an interference pattern. The electron *particles* created a *wave* pattern. Therefore, each electron must have acted in such as way as to produce it. But, how? We know that we fired the electron gun in such a manner as to disallow any opportunity for an electron to interfere with another. It was, simply, a single particle fired at a screen, one containing double slits through which the electron would pass. Its only "choice," one would well imagine, was through which slit it would travel. But it does not. The debate continues. How does the electron act in this way? Does it somehow know beforehand where it should register its energy so to create an interference pattern? Did the detected electron somehow "communicate" with the next in line? Did it somehow miraculously interference with itself? Did the electron, similarly defying all

known properties of physics, split immediately before the slits continuing on as fractions of its former self continuing its trek to the detector where it develops an interference pattern with characteristics of energy required of an intact, whole electron? Physicists simply do not know. What is clear, however, is that atomic level behavior is not that postulated by classic physics. These elements simply behave differently. This is of significant importance in neuroscience where, as Feynman suggests, the basic brain processes depended on quantum elements (*e.g.,* electrons, ions). This dependence is worthy of continued exploration (McElroy, 2004b, pp. 10-13).

Footnotes

1. The ABI/Inform search was accessed via Fielding Graduate University web site
    (www.fielding.edu) library services and was conducted on April 7, 2005. For both
    "abstract" and "subject" searches. The Boolean "OR" expanded the search to either
    "leader" or "leadership," both considered appropriate for a general search for leader-
    related material.

2. The average yearly increase in the rate of article publication has been more than 14%
    since 1980. The average monthly publication of articles with a subject of "leader" or
    "leadership" in the last 25 years = 81/month, in the last 15 years = 117/month, 10 years =
    139, and last five years = 170 articles per month (see Figure 1).

3. Muhammad received his message from God when "an invisible presence crushed him in
    its embrace" (Aslan, 2005, p. 34).

4. Jean Piaget is considered to have had the greatest impact on developmental psychology
    (Lourenco, 1996).

5. Later organizational scholars reference these system characteristics as critical in the
    understanding of organization behavior. They adopt new terminology: adaptation,
    equilibrium, feedback, and alternative configurations

6. The second law of thermodynamics states that "ordered systems in which irreversible
    processes take place tend toward most probable states and, hence, toward destruction of
    existing order and ultimate decay" (von Bertalanffy, 1972, p. 409), toward maximum
    entropy and disorder (Bailey, 1994, p. 148).