

Navigating Between Scylla and Charybdis The Odyssean Leader in a Complex Environment

**A Monograph
by
Major Russell D. Driggers
USAF**



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas**

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Major Russell D. Driggers

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Approved by:

_____ Monograph Director

Jacob W. Kipp, Ph.D.

_____ Director,
Stefan Banach, COL, IN School of Advanced

Military Studies

_____ Director,
Robert F. Baumann, Ph.D. Graduate Degree
Programs

Abstract

The tale of Odysseus and his encounter with Scylla and Charybdis is an instructive metaphor for considering theories of organizational design and leadership. The tale speaks of navigating between two extremes where dodging one increases the risk from the other. On the one side of the strait sits Charybdis, the “old way of doing things.” On the other lies a radical new approach to our understanding of leadership and organizational structure. Not as well known, it can be likened to the Scylla. Instead, perhaps it would be wise to take a cue from Odysseus and navigate between the two views in a balanced approach to organizational structure and leadership.

Some leadership and organizational theorists do not agree. They argue that the Industrial-Age approach to organizations generates stodgy, vertical hierarchies incapable of relevant response when faced with an adaptive environment of increasing complexity, volatility, and ambiguity. They point to business failures as well as Operation IRAQI FREEDOM as examples of organizational failures to adapt.

Instead, they argue it is time to radically alter our concept of leadership and organizational structure. They advocate flattening organizations to improve knowledge flows and foster innovative thinking. These organizations, they argue promise to explore the potential of human cooperation and create genuine creative organizational adaptation to a complex environment.

In attempting to sweep away the old order, however, key merits of the Industrial-Age approach are lost. Likewise, the uncritical adoption of these new radical ideas may pose dangerous risks.

What is needed, then, is a different approach to leadership and organizations—one that recognizes the strengths and weaknesses of both views and posits a role of leadership that, like Odysseus, effectively navigates between the two. In this approach—the Odyssean leadership approach—an organizational leader navigates a course between seeming contradictions and paradoxes. The Odyssean leader is a context-sensitive, systemic thinker who balances *adaptation and action; feed-forward learning versus feedback learning; flattened versus hierarchical organizational structures; and empowerment of subordinates against control.*

In the end, every organization must navigate between the Scylla and Charybdis. For the military, the stakes are dangerously high. Nevertheless, organizational leaders are expected to execute the kind of leadership that takes the organization through to the other end of the strait.

Odysseus did.

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Introduction

Mythology tells us a lot about ourselves. From tales of heroism to cathartic stories of hubris and tragedy, these stories remind us of dangers around and within us. The story of Odysseus and his encounter with Scylla and Charybdis is one such tale. Warned about the dangers he would encounter on his journey home, Odysseus chose to brave the narrow strait between Scylla and Charybdis. Scylla, a sea creature that lived among the rocks on one side of the strait, would pluck six men from the ship if Odysseus steered too close. Charybdis, on the other side of the strait, generated a deadly whirlpool that guaranteed the ship's destruction if it ventured near. Odysseus was faced with navigating between the two dangers so as not to invite complete destruction of his ship and crew.¹

What does this tale teach? The tale speaks of navigating between two extremes where dodging one increases the risk from the other. In the field of leadership and organizational theory, this myth is instructive. On the one side of the strait sits Charybdis, the "old way" of thinking about leadership and organizational design. On the other side lies a radical new approach to our understanding of leadership and organizational structure championed by some theorists, but not without its own dangers. It can be likened to the Scylla. Instead, perhaps it would be wise to take our cue from Odysseus and navigate between the two views of organizational structure and leadership.

¹ Homer, *The Odyssey*, ed. Samuel Butler (New York: Barnes & Noble, 1993), 149-153.

Some leadership and organizational theorists do not agree. In a currently en vogue trend, many denounce the “old way” of doing things. Theorists point to hierarchical, bureaucratic, leader-centric approaches claiming they are the reason we struggle. This “Industrial-Age approach,”² they argue, created stodgy, vertical hierarchies incapable of relevant response when faced with an adaptive environment of increasing complexity, volatility, and ambiguity. Too often, business organizations failed to adapt to a swiftly changing environment and were overrun by competition. Militarily, some argue the conflict in Iraq is similar. Greg Grant, a staff correspondent with *Government Executive*, noted that shortly after the U.S. invasion of Iraq in 2003 the U.S. Army “found itself losing to a nimble, adaptive enemy whose most effective weapons are the cell phone and Internet.”³ He goes further and argues “the Army remains too laden with tradition, too conservative, too hierarchical and rule-bound to cope effectively with its new enemy.”⁴

These indictments of the Industrial-Age approach in hand, some theorists advocate steering closer to the Scylla and radically altering our concept of leadership and organizational structure. They propose that flattening organizations to improve knowledge flows will foster creativity and yield success. Founded with insights from quantum physics, chaos and complexity

² The title “Industrial-Age approach” is used herein to refer to a systematic, hierarchical structure of organization. This type of structure often favors management over leadership in day-to-day operations and is bureaucratic in nature. Leadership theories sourced from this approach tend to be leader-centric, focusing on leader action, behaviors, personality, and the like.

³ Greg Grant, “Adapt or Die,” *Government Executive* 39, no. 13 (2007): 38.

⁴ Ibid..

theory, and postmodern philosophy, these new leadership paradigms offer exciting new opportunities. They promise to explore the potential of human cooperation to create genuine creative organizational adaptation in the contemporary environment. Indeed, these arguments, comprising what will be referred to as the “Radix approach,”⁵ are compelling, if not oversold.⁶

These proposals, however, attempt to sweep away the old order. In doing so, though, are there merits of the Industrial-Age approach that might be lost? Do some aspects of “legacy” approaches to leadership and organizational structure have timeless and necessary value? On the other hand, a closer look at the radix approach reveals serious disadvantages. Taken to its conceptual extreme, these newer leadership and organizational modes of thought potentially undercut the very principles on which organizations stand.

What is needed, then, is a different approach to leadership and organizations—one that recognizes the strengths and weaknesses of both views and posits a role of leadership that, like Odysseus, effectively navigates between the two. Such a concept actually amounts to a level of

⁵ Marguerite Schneider, “A Stakeholder Model of Organizational Leadership,” *Organization Science* 13, no. 2 (2002): 210. The title “Radix approach” is an umbrella term designed to capture the more organic, horizontal organizational structures proposed in recent research. Borrowed from Marguerite Schneider, the term radix “means root or foundation in Latin, [and] provides a meaningful contrast with bureaucracy.” The radix organization is primarily organized laterally along a “value chain.” Implicit in this approach is a re-casting of the role of leader away from the traditional focus on hierarchical position.

⁶ *Ibid.*, 209. As put by Marguerite Schneider, a research fellow at the New Jersey Institute of Technology, “the magnitude of change associated with the radix has not been seen since the industrial revolution and the emergence of bureaucracy.”

thought transcending that which created the present problem.⁷ In this approach—the Odyssean leadership approach—an organizational leader navigates a course between seeming contradictions and paradoxes. He steers a context-dependent course between the merits of either approach while avoiding their failings. The Odyssean leader is a context-sensitive, systemic thinker who balances *adaptation versus action; feed-forward learning versus feedback learning; flattened versus hierarchical organizational structures; and empowerment of subordinates against control.*⁸

In order to expound on this argument, each of the approaches to leadership and organizational theory will be presented in the following sections. The next section will describe the Industrial-Age approach in detail. Following that section, the next will present the merits of the Industrial-Age approach and will be followed with a discussion of its failings. The same approach will be used to discuss the Radix Approach, its merits, and its failings. With this

⁷ Margaret Wheatley, *Leadership and the New Science: Discovering Order in a Chaotic World*, 2nd ed. (San Francisco: Berrett-Koehler Publishers, 1999), 7. In *Leadership and the New Science*, Margaret Wheatley claims that the insights from “the new science” (e.g. quantum physics, complexity and chaos theories) open radical new possibilities for organizational forms and leadership approaches. In her argument, she makes reference to Einstein’s remark that a problem cannot be solved by the same level of thinking that created it. The radix approach, however, amounts to simply removing hierarchy and de-emphasizing leaders as a means to achieve these radical new possibilities. In a sense, these solutions reside on the same plane of thinking as the Industrial-Age approach. The Odyssean approach, however, is an attempt to take a more holistic view and navigate a course between contradiction, paradox, and competing claims. It can be thought of as an approach that transcends the thinking that “got us into the problem.”

⁸ In actuality, these pairings are neither mutually exclusive nor are they set in opposition with each other. In fact, that is the fundamental point about Odyssean leadership—leaders must understand how to work with both aspects at the same time. These pairings, however, highlight the difference in emphasis held by either approach to leadership and organizational theory. “Action” is intended to highlight the Industrial-Age emphasis upon taking action to change the environment. “Adaptation” is intended to highlight the radix approach’s focus on changing the organization in response to environmental changes.

understanding in hand, a presentation of Odyssean leadership follows. It will further describe Odyssean leadership, with reference to the merits and failings of both the Industrial-Age and the Radix approaches. This monograph presents the Industrial-Age and radix approaches in their conceptual “extremes” while treating them as fairly as possible. The discussion that follows takes place on a theoretical level; therefore, examples used herein are intended to be illustrative and not to serve as proofs, per se.

Note also, this monograph does not claim to present *the* theory of leadership. That may, in fact, be impossible. Instead, it highlights apparent contradictions that successful leaders navigate. The arguments herein imply that balance, relevance, and an orientation to truth underpin good leadership. Furthermore, organizations must be context sensitive in a rapidly changing environment. As noted by Francis Fukuyama and Abram Shulsky in a RAND study on organizational design, a current “revolution in military affairs” may have less to do with information-age technology, focusing instead on “the use of appropriate organizational structures.”⁹ In the end, effective leadership and appropriate organizational design remain elusive subjects of study; nonetheless, they are indispensable in a complex, ambiguous, and volatile world.

⁹ Francis Fukuyama and Abram N. Shulsky, *The “Virtual Corporation” and Army Organization* (Santa Monica, CA: RAND, 1997), ix.

Charybdis: The Industrial-Age Approach

Until recent decades, modern views of effective leadership were rooted in the Industrial-Age approach.¹⁰ More recently, though, this approach is treated as a modern day organizational Charybdis. As described earlier, the mythological Charybdis was a creature that generated a deadly whirlpool. To be caught in the whirlpool guaranteed the destruction of any sea-going vessel. In today's complex, ambiguous, and volatile environment, there is a growing sentiment that the Industrial-Age approach to leadership and organizational design similarly leads to disaster. Corporate and military failures to adapt thrust old concepts into question as people struggle to cope with complexity and uncertainty. However, before blindly steering away from Charybdis towards the Scylla, a more in-depth discussion of the Industrial-Age approach is necessary. What is its history and what are the underlying assumptions behind this approach? How are leaders viewed? Finally, what are the cultural implications of the Industrial-Age approach?

To be honest, the title "Industrial-Age approach" is something of a misnomer. Although radical theorists often argue that hierarchical organizations and the resulting bureaucratic structure are Industrial-Age constructs, this is not the case. In fact, the Chinese developed extensive and

¹⁰ Benjamin B. Lichtenstein, Mary Uhl-Bien, Russ Marion, Anson Seers, James Douglas Orgon, and Craig Schreiber, "Complexity Leadership Theory: An Interactive Perspective on Leading in Complex Adaptive Systems," *Emergence: Complexity and Organization* 8, no. 4 (2006): 2. For example, Lichtenstein, et al., argue that "there is a growing recognition that traditional top-down theories of leadership are at best overly simplistic." See also, Mary Uhl-Bien, Russ Marion, and Bill McKelvey, "Complexity Leadership Theory: Shifting Leadership from the Industrial Age to the Knowledge Era," *Leadership Quarterly* 18, no. 4 (2007): 301.

highly ordered bureaucracies in ages pre-dating Christianity. In a description highly reminiscent of today's bureaucratic structures, the Chinese "used duties and ceremonial etiquette to increase social integration. They also developed well-articulated bureaucracies with departments, coordination links among officials, standard operating procedures, and audits of officials' performance."¹¹

Dating back to 1100B.C., the "Officials of Chou" is one of the most ancient treatises on bureaucratic organization. As stated by management professors Violina Rindova and William H. Starbuck, this ancient text "contradicts the widespread but undocumented idea that bureaucracy is a development of recent times."¹² In their discussion of the ancient Chinese bureaucratic structure, Rindova and Starbuck note six key properties: "division of labor based on functional specialization, well-defined hierarchy of authority, rules about the rights and duties associated with positions, work procedures, impersonal relations among people performing roles, and promotion and employment based on technical competence."¹³ These six properties resonate with today's hierarchically structured organizations.

Moving forward some 3000 years, the Industrial Revolution generated intense interest in this form of organization as a means of dealing with the complexities of the new era. Over time

¹¹ Violina P. Rindova, and William H. Starbuck, "Ancient Chinese Theories of Control," *Journal of Management Inquiry* 6, no. 2 (1997): under "Abstract," <http://jmi.sagepub.com/cgi/reprint/6/2/144> (accessed July 29, 2008).

¹² *Ibid.*, under "Control Of and Through Bureaucracy."

¹³ *Ibid.*

theories of bureaucracy were developed culminating in the seminal work of Max Weber on organizational theory, by Max Weber. In *The Theory of Social and Economic Organization*, he specifies how bureaucracies should be structured including such aspects as delineating offices by duty, delimiting powers between offices, organized strict hierarchy, and fitness for offices being judged by technical competence. Impressively similar to the characteristics of the ancient Chinese formulation, Weber felt that this kind of bureaucracy was “by far the most efficient instrument of large-scale administration which has ever been developed and the modern social order in many different spheres has become overwhelmingly dependent upon it.”¹⁴ In many respects, the Western approach to bureaucracy and hierarchical organization has changed little since Weber’s time.

This is so because, until recently, many of the underlying assumptions have not substantively changed. Margaret Wheatley, leadership professor and consultant, outlines several of the basic assumptions that underpin the Industrial-Age approach. They include the assumption of linear cause and effect, material causes, environmental predictability, categorical thought, and a reliance on boundaries.¹⁵ Given these assumptions, certain features emerge. For instance, Industrial-Age organizations rely heavily on formulating ends-ways-means (i.e. strategy), making risk-reward calculations, and careful planning as a means of deciphering complexity and

¹⁴ Max Weber, *The Theory of Social and Economic Organization* (New York: Free Press, 1964), 58.

¹⁵ Wheatley, 28-30.

organizing action. They also categorize work and assign people specific roles in accomplishing that work. With these roles come boundaries that designate authority, design power structures, and carve communication channels. These boundaries are typically opaque. In other words “the domain of organizational members is largely internal, and... relatively few members are in boundary-spanning roles.”¹⁶

Another implicit assumption in this framework deals specifically with human nature. Bureaucratic structures are inherently designed to provide control over people and their actions.

Returning to 1100B.C., the Chinese bureaucratic concept assumed “that subordinates are independent, self-interested, and deceitful, so superiors must pit subordinates against each other, define behavioral limits, and use rewards and punishments to obtain desired behaviors.”¹⁷ This assumption about human nature remained largely unchanged with the advent of Industrial age organizational structures.¹⁸

Given this description of the somewhat awkwardly named “Industrial-Age organization,” certain aspects of leadership emerge. First, and foremost, “leadership theories have assumed that

¹⁶ Schneider, 209.

¹⁷ Rindova, under “What’s Interesting.”

¹⁸ Fred W. Riggs, “Modernity and Bureaucracy,” *Public Administration Review* 57, no. 4 (July/August 1997): 348. Riggs argues that industrialization forced the development of bureaucratic structures that “married public accountability to private accumulation.” In other words, bureaucratic structures protected the organization from the deleterious effects of personal greed. Thus, the entire organization benefits from these protective structures.

the leader has power over those being led, specifically institutionalized power or authority.”¹⁹ Given this power, a leader exerts a quality known as leadership that is seen as a kind of exchange between he and his subordinates. From another perspective, the Industrial-Age approach to leadership “is developed around the idea that goals are rationally conceived and that managerial practices should be structured to achieve those goals...the role of leadership is to align individual preferences with rational organizational goals.”²⁰ Thus, institutionally placed leaders practice leadership so as to develop, communicate, and guide an organization’s accomplishment of goals derived through rational, scientific thought.

In his seminal work within the field of leadership studies, *Leadership*, James MacGregor Burns identified two modes of leadership known as transformational and transactional leadership.²¹ In more recent work, Scott Bryant, in an article published in the *Journal of Leadership & Organizational Studies*, describes transformational leaders as “active leaders that have four distinguishing characteristics: charisma, inspiration, intellectual stimulation and individualized consideration.”²² These leaders “can be defined both by their effect on followers

¹⁹ Schneider, 209.

²⁰ Uhl-Bien, 301.

²¹ James MacGregor Burns, *Leadership*, 1st ed. (New York: Harper & Row, 1978). See also: Bernard M. Bass, *Leadership and Performance Beyond Expectations*, (New York: Collier Macmillan, 1985); and Bernard M. Bass and Bruce J. Avolio, *Developing Potential Across a Full Range of Leadership : Cases on Transactional and Transformational Leadership* (Mahwah, NJ: Lawrence Erlbaum Associates, 2002).

²² Scott E. Bryant, “The Role of Transformational and Transactional Leadership in Creating, Sharing and Exploiting Organizational Knowledge,” *Journal of Leadership & Organizational Studies* 9, no.

and their behaviors that seem to motivate exceptional performance.”²³ Additional research adds “sensitivity to the environment as a key dimension of the charismatic leader.”²⁴ In other words, theorists argue that transformational leaders not only provide inspiration to their followers in ways that elicit high levels of performance, but they also modify their approaches based on contextual and environmental cues. Furthermore, Bryant posits that the transformational leadership style is well suited to fostering innovation. This research is supported by the work of Crossan, et al. In their “4I” organizational learning framework, they posit that organizations move learning “forward” through intuition, interpreting, and integrating.²⁵ Transformational leadership, as demonstrated in later research, fosters these processes.²⁶

4 (Spring 2003): 36. Bryant defines these characteristics as follows: “Charisma is the extent of pride, faith and respect leaders encourage their workers to have in themselves, their leaders and their organizations. Inspiration is the ability to motivate followers largely through communication of high expectations. Intellectual stimulation is the frequency with which leaders encourage employees to be innovative in their problem solving and solutions. Finally, individualized consideration is the degree of personal attention and encouragement of self-development a leader imparts to employees.”

²³ Ibid..

²⁴ Ibid., 37.

²⁵ Mary M. Crossan, Henry W. Lane, and Roderick E. White, “An Organizational Learning Framework: From Intuition to Institution,” *Academy of Management Review* 24, no. 3 (1999): 525. The 4I framework for institutional learning posits that individuals experience intuition as they try to cope with new information and environmental cues. As they discuss this intuition with other organizational members, they undergo successive iterations of interpreting and integrating the intuitive knowledge into organizational practice.

²⁶ Dusya Vera and Mary Crossan, “Strategic Leadership and Organizational Learning,” *Academy of Management Review* 29, no. 2 (2004): 228-235.

Transactional leadership, on the other hand, is more oriented to an overt exchange between the leader and the led. “Transactional leaders give rewards and punishments to encourage performance,” Bryant states, “making the leader/worker relationship essentially an economic transaction.”²⁷ Within this framework, transactional leaders work within established rule-sets and make use of institutionalized rewards/punishments to induce “solid, consistent performance that meets agreed upon goals.”²⁸ Much of the scholarship agrees that, since the exchange between leader and led is already established, there is often little incentive for innovation or growth. Instead, subordinates provide the tasks required and, in response, transactional leaders provide rewards. As noted by Ronald Heifetz, founding director of the Center for Public Leadership at the Harvard Kennedy School, the kind of work accomplished in this setting amounts to solving “technical problems.”²⁹ In describing “technical problems,” he states “every day, people have problems for which they do, in fact, have the necessary know-how and procedures.”³⁰ Transactional leadership can be thought of as leadership exercised to address technical problems.

Interestingly, both of these leadership modes are particularly leader-centric. In other words, the Industrial-Age approach pays particular attention to the leader and identifies

²⁷ Bryant, 37.

²⁸ Ibid..

²⁹ Ronald A. Heifetz and Martin Linsky, *Leadership on the Line: Staying Alive Through the Dangers of Leading* (Boston: Harvard Business School press, 2002), 13.

³⁰ Ibid..

leadership as that quality that comes from leaders. Whether it is a charismatic, motivational exchange between leader and led, or it is an agreed upon exchange of reward for task accomplishment, the Industrial-Age approach views leadership as proceeding from the leader toward the subordinate. The subordinate, in turn, meets leadership with followership. Within this theoretical framework, as noted earlier, these theories make the implicit assumption that leadership belongs to institutionally recognized and placed leaders.³¹

Given this description of the Industrial-Age underlying assumptions and approach vis-à-vis leadership, certain cultural tenets emerge. With an emphasis on planning and linear cause and effect, the Industrial-Age organizational culture is task-oriented and can be directive in nature. The emphasis within this culture is on “the bottom line” whereby success is tightly defined and mathematically measured. For instance, the use of Measures of Performance and Measures of

³¹ While these theories inextricably link leaders with their hierarchical position, other related fields of study do not do the same. (In fact, it is arguable that these theories are not as hard bound to the linkage as some radix theorists would contend.) In a classic study, Professors Raven and French identified five bases for social power: reward, coercive, legitimate, expert, and referent. These bases of power are not bound by position in a hierarchical setting. Those with strong personalities can, through the use of coercive power, have a decisive influence up the chain of command. Likewise, others may naturally possess referent power or have achieved expert power that permits direct influence in all directions regardless of organizational hierarchy. Thus, research in social sciences has recognized forms of leadership that fall outside of institutional blessing. However, it is true that much of the leadership research still implicitly maintains the linkage between leadership and institutional position. See Bertram H. Raven and John R. P. French, Jr., “Legitimate Power, Coercive Power, and Observability in Social Influence,” *Sociometry* 21, no. 2 (1958): 83-97.

Effectiveness (which are evaluated by whether they are measurable, discrete, relevant, and responsive) in U.S. Army doctrine is a key example of this cultural characteristic.³²

In addition, this cultural approach tends to emphasize behaviorist thinking. In essence, behaviorist thinking places decreased emphasis on what a subordinate thinks or feels about an issue, concentrating instead on that individual's behaviors. To be sure, the transformational leadership approach pays particular attention to subordinate motivation; however the subordinate's motivation is referenced by resultant task accomplishment. Over all, the Industrial-Age approach tends to produce a culture that prioritizes, in the words of Steven Covey, production over production capacity.³³ As he describes it, many people tend to view effectiveness in terms such that "the more you produce, the more you do, the more effective you are."

³² Field Manual 3-0, *Operations* (Washington DC: United States Government Printing Office, 2008): 5-5.

³³ Stephen R. Covey, *The Seven Habits of Highly Effective People: Restoring the Character Ethic* (New York: Simon and Schuster, 1996), 54. Covey argues that effectiveness is actually "a function of two things: what is produced...and the producing asset or capacity to produce." As he sees it, true effectiveness requires a balance between the two. The price for inordinate attention paid to production is often the destruction of production capability. On the other hand, though, the price for too much attention paid to taking care of the production capability yields nothing. Thus, a balance between the two is required to produce and keep producing.

Merits of the Industrial-Age Approach

Given this basic understanding, certain merits of the Industrial-Age approach appear.³⁴

They can be encapsulated in four related areas: speed and efficiency of action through technical solutions, institutionalization of learning, the benefits of hierarchical structure, and protection against the failings of human nature (depicted in Figure 1).³⁵

First, Industrial-Age organizations act with speed and efficiency, especially in a stable environment. According to Fukuyama and Shulsky, “If the organization has a clear-cut goal and has to move quickly to achieve it, then some degree of hierarchical control will be critical.”³⁶ The use of technical

Figure 1
Merits of the Industrial-Age Approach

1. Speed and Efficiency via Technical Solutions
2. Institutionalization of Learning Through Feedback Learning Flows
3. Benefits of Hierarchy
4. Protection Against Human Failings

³⁴ This is where, admittedly, the Odyssean metaphor falls short. In the myth, Scylla and Charybdis represent definitive dangers to Odysseus and his crew. The picture in organizational and leadership theory is not as clean. This monograph treats the failings of each of the approaches to organizational and leadership theory as the mythical monsters to avoid. The merits of each approach, however, are truly what a leader seeks to balance in order to achieve relevant effectiveness.

³⁵ Before delving too deep into that topic, however, it is important to note that many of the critiques levied against the Industrial-Age approach stem from the assumption that the hierarchical forms of organization are based solely on scientific revolution and Enlightenment thinking. While some of the tenets thereof, such as categorization and linear cause and effect, are certainly aspects of Industrial-Age organizations, the existence of an extremely similar ancient Chinese model challenges those assumptions. This caveat is important because the merits, listed below, of the Industrial-Age approach appear distinctly Western. Critics would charge that the list amounts to a tautology. Western-style, rationally based organizational structures have merit by virtue of their grounding in Western rationality. The tautology disappears when one takes the ancient Chinese organizational model into account. Hence, these merits may be more timeless, as a result.

³⁶ Fukuyama, 19.

solutions assists Industrial-Age organizations in achieving swift action. The hierarchical structure is organized in a manner that permits relatively swift implementation of the plan. A hierarchy is designed to provide division of labor as well as a single decision-maker at the appropriate level. Fukuyama and Shulsky argue that without the presence of this decision-maker, organizations could become “paralyzed by internal disagreements.”³⁷ Hence, the Industrial-Age focus on planning becomes central to establishing and codifying said technical solutions while the designation of a single decision-maker enables their swift implementation.

Another merit of the Industrial-Age organization is its capacity to institutionalize learning. Less effective at generating innovation, these organizations are adept at codifying lessons and ensuring compliance. This institutionalized learning “is about refreshing and reinforcing learning—ensuring that routines are not neglected or forgotten so that the organization can continue to produce and perform.”³⁸ This kind of learning is described in the 4I Framework of Organizational Learning mentioned earlier. Within this framework, organizational learning flows both forward, as noted earlier, but it also “flows” backward. This flow, through the use of feedback mechanisms, institutionalizes organizational learning. Industrial-Age organizations are typically adept at generating feedback-learning flows. These flows codify institutionalized learning by embedding the learning “in the systems, structures, strategy,

³⁷ Ibid..

³⁸ Vera, 229.

routines, prescribed practices of the organization, and investments in information systems and infrastructure.”³⁹

Along these lines, but from a more philosophical approach concerning epistemology, Industrial-Age organizations are good at managing assimilative knowledge. In a description of educational theorist David Kolb’s experiential learning model, Colonels Christopher Paparone and George Reed note that the military attempts to routinize “tasks, conditions, and standards of work technology...they are enforced by the profession and, eventually, by the institution’s bureaucratic hierarchy and rule structure.”⁴⁰ They also note that this kind of structured knowledge is appealing to “senior managers because of perceived certainty derived from institutionalized metrics frequently associated with technology.”⁴¹ In other words, Industrial-Age organizations generate assimilative knowledge so as to ensure standardization and ease of measurement.

³⁹ Crossan, 529.

⁴⁰ Christopher R. Paparone and George Reed, “The Reflective Military Practitioner: How Military Professionals Think in Action,” *Military Review* 88, no. 2 (2008): 68. The other forms of knowledge (which will be referenced later) include divergent knowledge (eclectic participants come together in a way that generates paradigm shifting knowledge), accommodative knowledge (knowledge resulting from active experimentation as an organization tries to apply concrete experiences to new situations), and convergent knowledge (highly abstract concepts begin to relate more clearly to the environment at hand and the organization begins to generate rules and norms of action capable of being shared across the organization). See also David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice-Hall, 1984).

⁴¹ Paparone, 69.

It is informative to note how the Industrial-Age view of leadership fits within this discussion of institutionalization and assimilative knowledge. As noted by Vera, et al., transactional leadership tends to generate assimilative knowledge that reinforces this institutionalized learning.⁴² Likewise, they propose that transactional leadership has a positive impact on feedback learning in environments they characterize as “stable and certain.”⁴³ Thus, it seems that the role played by transactional leadership, and also management, is more likely to be favored in the Industrial-Approach to leadership and organizational design.

Related to the idea of institutionalization, Industrial-Age organizations also have merit by virtue of the hierarchical organizational structure. This structure offers unity of command, so important in the military setting, which provides the capability to handle economies of scale. First, as one of the principles of war, unity of command has always been a benchmark for judging the effectiveness of military operations. In U.S. Army Field Manual 3-0, *Operations*, “unity of commands means that a single commander directs and coordinates the actions of all forces toward a common objective. Cooperation may produce coordination, but giving a single commander the required authority is the most effective way to achieve unity of effort.”⁴⁴ Operational failures

⁴² Vera, 228-231.

⁴³ *Ibid.*, 234.

⁴⁴ Field Manual 3-0, A-3. There is a critical distinction between effectiveness and efficiency. The standard to which the military strives is ever-increasing effectiveness. Effectiveness can be defined as the degree to which an organization achieves its stated mission and/or goals. More typical to the business industry, and scholarship, is an emphasis on efficiency. Efficiency can be thought of as the maximization of output for a given input. The military pays greater attention to effectiveness because of time lags

have often been marked by dual chains of command, multiple channels of direction between echelons, and even cases with no clear demarcation of authority whatsoever.

Not only do they promote greater unity of command, hierarchies are uniquely suited to taking advantages of economies of scale. As argued by Fukuyama and Schuler, these organizations “are more readily scalable: one of the reasons that the U.S. Army emphasized uniformity in training, equipment, and doctrine was the belief that it was primarily a mobilization based that would have to be rapidly expanded in wartime.”⁴⁵ Thus, when considering logistics or global transportation, scalability is a key merit of the Industrial-Age approach.

The last merit of the Industrial-Age approach concerns human nature. The description of the Chinese bureaucratic system posed earlier is a good example of certain aspects of human nature. In that description presented above, members of an organization are assumed to be independent, self-interested, and deceitful. Likewise, Weber’s description of bureaucratic structure takes into account the need to sharply define the limitations of various offices and ensure that “each lower level is subject to control and supervision by the one immediately above it.”⁴⁶ In essence, these provisions take into account an understanding that certain human failings

inherent in complex, adaptive systems. Military objectives, especially in a counterinsurgency environment, often take concerted effort over long periods of time to realize the desired goals. While seemingly inefficient in the short-term, a focus on effectiveness recognizes the need to balance short-term mission accomplishment with long-term organizational success.

⁴⁵ Fukuyama, 19.

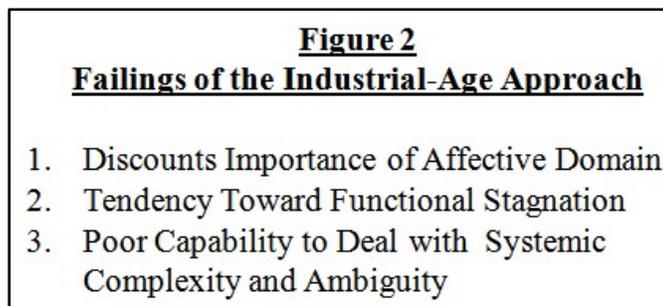
⁴⁶ Weber, 58.

such as greed, envy, and pride must be accounted for and controlled in some way. Unfortunately, these aspects of human nature are very alive and well even in today's post-modern society. Whether draconian or not, the Industrial-Age approach to organizational structures and leadership at least accounts for that fact.

Failings of the Industrial-Age Approach

Of course, the argument that the Industrial-Age approach accounts for human failings is often met with the critique that it does so by de-humanizing the workplace. Or, to put it another way, Industrial-Age organizations tend to discount the importance of the affective domain of human interaction. This is not the only critique of the Industrial-Age approach. For instance, many argue that the Industrial-Age approach tends toward functional stagnation and is extremely poor at dealing with environmental complexity and ambiguity (see Figure 2). With a current operating environment that is increasingly complex, ambiguous, and unstable, these critiques suggest that steering too close to the Charybdis with our leadership and in our organizations will, indeed, spell disaster.

As was noted earlier, the Industrial-Age approach tends to focus on “the bottom line,” often at the expense of the affective domain. As a metaphor, human eyesight can help explain the danger of this over-emphasis on goal orientation. Eyesight can be thought of as comprised of two distinct functions: focal vision and peripheral vision. Focal vision tends to get the lion's share of the attention. It is how the quality of a person's eyesight is typically measured and it is where humans receive the finest visual detail about the world around them.



Peripheral vision, however, provides crucial information without which a person could not accurately orient to the environment.

Such is the case with the affective domain of human interactions. Only in the past two decades, or so, have leadership and organizational theorists begun to understand and emphasize the role played by the affective domain. As noted by Dietrich Dörner, “thought is embedded in a context of feeling and affect; thought influences, and is in turn influenced by, that context.”⁴⁷

That context of feeling and affect extends to others in the organization through relationship channels. These relationships, then, have a decided effect on thought and, by extension, action. These relationships, between people and their individual feelings, hopes, and fears—in short, the affective domain—can be compared to peripheral vision. Another term for it is social interest.

Social interest entails developing skills for building relationships with others; “namely, understanding, empathizing with, and acting on behalf of others.” From a leadership perspective “social interest is a quality thought to influence cognitive, affective, motivational, and behavioral processes. Social interest seems to be a catalyst for the leadership roles needed in learning organizations.”⁴⁸ From a business perspective, Mary Uhl-Bien et al., argue “in this post-industrial era, the success of a corporation lies more in its social assets—its corporate IQ and

⁴⁷ Dietrich Dörner, *The Logic of Failure, Why Things Go Wrong and What We Can Do to Make Them Right*, 1st American ed. (New York: Metropolitan Books, 1996), 8.

⁴⁸ Kimberly A. Knutson and Alexis O. Miranda, “Leadership Characteristics, Social Interest, and Learning Organizations,” *The Journal of Individual Psychology* 56, no. 2 (2000): 207.

learning capacity—than in its physical assets.”⁴⁹ Given the metaphor of human eyesight, the goal orientation endemic to the Industrial-Age approach can be likened to focal vision. It typically receives the greatest amount of interest in terms of statistical measurements and framing the perception of success or failure.

Organizations are, however, intricate structures wherein members relate with each other in a complex social fabric made up of the conversations held between members.⁵⁰ Without it, an organization loses its peripheral vision, its “horizon” reference. Furthermore, some theorists argue that learning is closely related to and interacts with the development of identity.⁵¹ As an individual learns about their function within an organization, that process shapes their identity which, in turn, “determines what they pay attention to and what they learn.”⁵² Thus, this complex social web is deeply connected to how individuals develop their identity within an organization that, in turn, becomes the ground for information processing, knowledge flows between people, and the development of situational understanding.⁵³ Ultimately, it deeply affects the quantity and quality of the objective work accomplished by members of the organization.

⁴⁹ Uhl-Bien, 300.

⁵⁰ David Perkins, *King Arthur’s Round Table: How Collaborative Conversations Create Smart Organizations* (Hoboken NJ: John Wiley & Sons, 2003), 274.

⁵¹ John Seely Brown and Paul Duguid, *The Social Life of Information* (Boston: Harvard Business School Press, 2000), 138.

⁵² *Ibid.*.

⁵³ *Ibid.*, 139.

Having established the importance of the social structure, the peripheral vision, within an organization, one of the chief critiques of the Industrial-Age approach is that it virtually ignores the importance of that reality. Hence, the first of the dangers of Charybdis is the de-humanization of the workplace. By intently and exclusively championing a “bottom-line” mentality, Industrial-Age organizations undermine the very social fabric that enables mission-accomplishment. As noted by Wheatley, many of the costly failures “re-engineer” organizations in the 1990’s “were later acknowledged to have stemmed in large part from processes and beliefs that paid no attention to the human (or living) dimensions of organizational life.”⁵⁴ This, however, is not just attributable to bureaucratic structures.

Typical modes of human interaction can also discount the role of social interest. In his book, *King Arthur’s Round Table: How Collaborative Conversations Create Smart Organizations*, David Perkins highlights the importance of symbolic conduct. Similar in nature to social interest, symbolic conduct refers to “the side messages sent by our words and behavior.”⁵⁵ He goes on to argue, “We inevitably and often inadvertently send messages by way of our immediate words and behavior that reach far beyond the moment.”⁵⁶ He goes on to describe positive and negative interactions between people. Positive archetypes of interaction, as he calls them, “involve effective knowledge processing and positive symbolic conduct, the kind

⁵⁴ Wheatley, 29.

⁵⁵ Perkins, 27.

⁵⁶ Ibid..

of symbolic conduct that builds cohesiveness, trust, and commitment.”⁵⁷ Negative archetypes of interaction, on the other hand, involve the opposite. Unfortunately, Perkins concludes “regressive archetypes of interaction tend to dominate in community and organizational contexts, driving out progressive archetypes.”⁵⁸ In Industrial-Age organizations that tend to favor institutionalized learning and bureaucratic methodologies, there are often no protections for progressive archetypes of interaction. If this is the case, then negative symbolic conduct becomes more difficult to eliminate and knowledge processing suffers. This situation potentially leads to the stifling of innovative thought.

Unfortunately, the result of the stifling of innovative thought is functional stagnation, the second of Charybdis’ dangers. Functional stagnation can be thought of in more colloquial terms as “getting set in one’s ways.” Several elements comprise this dynamic such as the tendencies for bureaucracies to become excessive, ossification of learning, and insular practices.

As noted by Marguerite Schneider, bureaucracies tend toward excessive size and hierarchy.”⁵⁹ This tendency toward excessive size and hierarchy often stems from the gradual inertia that is developed through institutional growth. This institutional growth can occur through a number of different processes; however, one of the most prevalent is the development of control processes. For instance, the military will typically respond to a major mishap or crime by

⁵⁷ Ibid, 29.

⁵⁸ Ibid, 32.

⁵⁹ Schneider, 211.

instituting greater control measures over its members. These control measures are then codified and institutionalized. Once this is done, these controls are now near-permanent features of the organization that will only be built upon by more control measures in time. Another high profile example was the creation of the Department of Homeland Defense. In this case, highly publicized intelligence coordination failures were solved, somewhat ironically, with the establishment of another level of bureaucratic control.

While the tendency toward excessive growth is not in itself a critical failing of Industrial-Age organizations, that coupled with the ossification of learning is critical. As noted by U.S. Army Colonels Paparone and Reed, institutionalized learning tends to develop inertia. They argue, “An institution often overvalues the overt qualities of assimilative knowledge and creates bureaucratic or mechanistic structures that stifle innovation, thereby crippling professional progress.”⁶⁰ As a result, they argue, the gradual development of standards and controls “bars divergent and accommodative knowledge from the field.”⁶¹ As a result, the knowledge flows within an organization tend to settle into the protection of institutionalized knowledge. As noted by Colonel Brown, the Army is still struggling, in regard to information processing, with “an exclusive rather than inclusive mind-set toward modular brigade operations.”⁶² As he describes

⁶⁰ Paparone, 68.

⁶¹ Paparone, 69.

⁶² Robert B. Brown, “The Agile-Leader Mind-Set,” *Military Review* 87, no. 4 (2007): 34.

it, “The Old Way, The Old Enemy,” consists of vertical information flow, which is organizationally blockaded from moving horizontally between units in need of that information.

This situation inhibits the generation of other modes of knowledge (such as divergent and accommodative knowledge), and demonstrates a dependence on the organizational leader for the flow of information. With regard to the first, hierarchical stove-piped structures tend to disallow eclectic participation and encourage insular practices. In other words, organizational boundaries often prevent the fruitful exchange of insight and ideas that may lead to innovation and adaptive responses. Paparone and Reed note, “The danger is that structure ends up driving response instead of needed capabilities and values driving organizational response.”⁶³ To put it in terms of an Army saying, the organization begins to fight the plan and not the enemy.

The dependence on the organizational leader for moving information also leads to the third key danger of the Charybdis; Industrial-Age organizations are poor at adapting in the face of environmental complexity and ambiguity. This is so, they say, because these organizations often depend too much on the cognitive ability of the organizational leader, they also tend to favor implementation of technical solutions to adaptive problems, and they favor scale over complexity.

According to Lichtenstein, et al., “The Western mindset about leaders seems ruled by assumptions that leaders have some innate capacity to plan futures, arrive at rational and correct

⁶³ Paparone, 38.

decisions, and control social outcomes.”⁶⁴ Hence, the Industrial-Age approach places great stock in the ability of organizational leaders. Unfortunately, research into complexity and chaos theory suggest that individuals are actually rather poor at coping with complex, ambiguous, and volatile environments. In *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*,

Dietrich Dörner argues that, when faced with problems characterized by complexity, intransparency, and internal dynamics, problem solvers often rely on inappropriate cognitive habit patterns that set failure in motion from the start.⁶⁵ This “logic of failure” creates small effects initially that combine and lead to failure on a grand scale. These small effects stem from simple cognitive patterns decision-makers use that can lead to dangerous problem solving traps.

Not only are humans cognitively limited when it comes to deciphering complex situations, complexity theory also suggests that simply examining a situation at the surface level of events is insufficient. Instead of looking for systemic interrelationships and patterns of change, people often see their environment in terms of things/events and in “snapshots of time.”⁶⁶ As a result, they fail to look for and act upon the underlying structures of relationship and change that drive the complex array of events and things they witness. Instead, simple solutions are applied to complex phenomena and the environment reacts in seemingly unexpected ways.

⁶⁴ Lichtenstein, 3.

⁶⁵ Dörner, 37.

⁶⁶ Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday/Currency, 1994), 68.

Unfortunately Industrial-Age organizations tend not to promote ways to teach systemic thinking. In his article “The Great Captains of Chaos: Developing Adaptive Leaders,” U.S. Army Major John Burpo argues “the current institutional struggle to develop adaptive leaders lies in the military’s strong tradition of applying ordered systems to disordered problems and of desiring adaptive minds within an organizational culture of conformity.”⁶⁷ Thus, Industrial-Age organizations place a heavy burden upon its leaders to understand and act in a complex environment in spite of cultural norms suppressing that capability.⁶⁸

This situation also exacerbates the tendency to apply technical solutions. Ronald Heifetz argues that there is a “whole host of problems that are not amenable to authoritative expertise or standard operating procedures.”⁶⁹ He also argues that the environment that creates these problems often entails significant risks. In the face of those risks, hierarchical organizations often look to their leaders to supply the answer. As the level of risk increases, Heifetz argues that the level of danger to the leader also increases. “For this reason, people often try to avoid the dangers, either consciously or subconsciously, by treating an adaptive challenge as if it were a

⁶⁷ F. John Burpo, “The Great Captains of Chaos: Developing Adaptive Leaders,” *Military Review* 86, no. 1 (2006): 68.

⁶⁸ These critiques fail to address the role played by a staff for these leaders. These staffs are designed to put multiple minds together to develop a shared understanding of an environment, the problem, and the resulting mission. These critiques do not address the ability for these staffs to assist a commander with managing complexity. On the other hand, others might argue that the commander, in an Industrial-Age organization, must still individually cope with a complex environment as the decision authority rests solely with that office, with or without a staff.

⁶⁹ Heifetz, 13.

technical one.”⁷⁰ In other words, Heifetz argues that leaders, under the weight of organizational pressure to act, apply current procedures and modes of action to complex, ambiguous problems. Unfortunately, in Heifetz’s estimation, “the single most common source of leadership failure...is that people, especially in positions of authority, treat adaptive challenges like technical problems.”⁷¹

The third reason that Industrial-Age organizations struggle with the imperative to adapt is that they often favor scale over complexity. In his book, *Making Things Work: Solving Complex Problems in a Complex World*, Yaneer Bar-Yam differentiates between large-scale behavior and fine scale complexity. In his description, behavior that occurs on a large scale often entails small levels of complexity at the fine scale. Consider watching an army-unit marching in the distance. At a certain distance, the army appears to be moving as one unit and the details of the individual soldiers is lost. However, as one scales closer, the behavior of the army-unit appears to disaggregate as the details of the individual soldiers become clearer.⁷² Hierarchical organizations, idealized by the Roman Legion by Bar-Yam, tend to maximize the scale of behavior to achieve mass of effects. The trade-off is reduced fine-scale complexity. A larger scaled organization may not permit the fine-scale complexity required to cope with a highly complex operating environment.

⁷⁰ Ibid., 14.

⁷¹ Ibid..

⁷² Yaneer Bar-Yam, *Making Things Work: Solving Complex Problems in an Complex World* (N.p.: Neesi Knowledge Press, 2004), 58.

Hence, it seems that the Industrial-Age approach suffers from several key disadvantages, especially when faced with a complex, volatile, and adaptive environment. Merits of the approach notwithstanding, its failings are aptly identified with the threat posed by Charybdis' whirlpool. If that is the case, then what is the nature of the creature on the other side of the strait?

Scylla: The Radix Approach

As described in the introduction, across the strait from the Charybdis awaited the Scylla. The Scylla was a creature that would, at a minimum, pluck six sailors from any vessel that sailed too near. If the sailors fought back, they invited upon themselves complete destruction from the Scylla. To avoid complete destruction, Odysseus chose to sail closer to the Scylla and, in the process, lost six of his loyal men.

In response to today's complex, ambiguous, and volatile environment many theorists have looked to developments in science for understanding, and in the process advocated a navigational course closer to the Scylla. As noted earlier, they draw lessons from quantum physics, the sciences of complexity and chaos, as well as postmodern philosophy to help make sense of a very confusing world. These lessons, applied to leadership and organizational structures, do yield interesting insights that hold promise for improving an organization's adaptability and resilience.⁷³ Nevertheless, several dangerous failings in the radix approach must be understood—they represent the threat posed by the Scylla.

⁷³ Fukuyama, 19.

As with the Industrial-Age approach, however, several introductory questions are important to answer. What are the underlying assumptions and what is the nature of the radix organization? How are leaders and, more importantly, the phenomenon of leadership viewed?

Finally, what are the cultural implications of the radix approach?

As one might surmise from the discussion thus far, the radix approach is largely a reaction to the failings of the Industrial-Age approach (both perceived and real). In the mind of some theorists, the bureaucratic, hierarchical approach serves as an “imaginary” organizational structure overlaid onto the true socially based structure inherent to the organization.⁷⁴ Threads of social interaction, like a spider’s web, are extremely intricate and do not submit well to channeled chains of command and vertical information flows. Wheatley argues “to become effective at change, we must leave behind the *imaginary organization* we design and learn to work with the *real organization*.”⁷⁵ Unfortunately, the “real organization” is an extremely complex entity that does not submit well to traditional modes of study.

Nevertheless, several key themes run throughout any discussion of leadership or organizational structure that strives to move beyond “the Industrial-Age.” These include the importance placed on knowledge in the post-Industrial context, and the recognition of the importance of relationships in understanding systems.

⁷⁴ Wheatley, 144.

⁷⁵ Ibid..

As noted by Schneider, “the new-form or radix organization reflects the transition from the industrial to the postindustrial or knowledge-based age.”⁷⁶ Unlike previous forms of organization in which things of value such as land, labor, and capital were subject to decreasing returns, knowledge is not so bound.⁷⁷ Knowledge operates in terms of increasing return. In other words, using knowledge generates more knowledge. Thus, the true nature of knowledge suggests that knowledge should be shared and used in order to generate more knowledge. Many organizational theorists champion the learning organization, in which knowledge is the currency, as the necessary step toward dealing with a complex, adaptive, volatile environment. The implications for organizational structures and leadership are legion.

First and foremost among these implications is the understanding of the importance of the social dimension, the relationships that exist between people in organizations. As discussed earlier, this is akin to developing an understanding of the critical role played by peripheral vision. Taking a cue from complexity theory, Boal et al., argue that organizations can be thought of as complex, adaptive social learning systems. These systems “move between exploitative and explorative learning depending on the way information is processed and disseminated that information through dialogue among members.”⁷⁸ As these systems move through these modes of

⁷⁶ Schneider, 210.

⁷⁷ Ibid..

⁷⁸ Kimberly B. Boal, and Patrick L. Schultz, “Storytelling, Time, and Evolution: The Role of Strategic Leadership in Complex Adaptive Systems,” *Leadership Quarterly* 18, no. 4 (2007): 415. This approach to organizations recognizes that information is “the critical flow between agents” and the

learning, they utilize the relationships between agents within the system and generate knowledge through dialogue. As argued by Boal, et al., “dialogue serves as a primary resource flow among organizational agents.”⁷⁹

The radix approach acknowledges that these relationships through which dialogue occurs exist not only within the hierarchical structures but also across boundaries established within the organization. These relationships, then, are the crucial conduit across which knowledge flows and, as a result, grows. Because the architecture of these relationships is much more complex than that described in a bureaucratic organizational chart, an attempt to develop a pictorial representation of the radix organization is extremely difficult. Schneider states that these radix organizations are “characterized by fuzzy organizational boundaries, flattened hierarchies, and work relationships sometimes brought about through contracts instead of employment.”⁸⁰ Given the “fuzzy” nature of these organizations, an example of a prototypical radix organization may provide the best illustration.

One of the more explicit examples of the radix organization occurred during the early 1990’s in a Danish company called Oticon. Primarily a manufacturer of hearing aids, the

emphasis must be on “learning for adaptation in social systems.” Exploitative learning corresponds to the type of learning associated with feedback learning flows and the institutionalization of knowledge. Explorative learning is associated with feed-forward learning flows and intuition, interpretation, and integration processes.

⁷⁹ Ibid, 417.

⁸⁰ Schneider, 209.

organization underwent a radical reorganization in order to explore the possibilities of a radical mode of organization.⁸¹ Under the guidance of CEO Lars Kolind, “employees were given the freedom to redesign their physical space as part of a major restructuring of the entire corporate operation.”⁸² Wheatley describes the work environment as one that was extremely egalitarian in nature. Each employee was issued a “nomadic office” (laptop computer, phone, and file cart all located on a transportable cart) that allowed them to be highly mobile within the Oticon office building. Office walls were taken down to facilitate team formation. In this way, as teams were developed, employees simply congregated their portable offices and began to work.⁸³

Underpinning this organizational change was the idea that employees could respond to the changing hearing-aid market in a way where the organization was “capable of actually combining and recombining skills in a flexible manner, where skills and other resources would move to those (new) uses where they were most highly valued.”⁸⁴ In the end, the “new organization represented a breakdown of the old functional department-based organization into an almost completely flat, project based-organization.”⁸⁵

⁸¹ Nicolai J. Foss, “Selective Intervention and Internal Hybrids: Interpreting and Learning from the Rise and Decline of the Oticon Spaghetti Organization,” *Organization Science* 14, no. 3 (2003): 4.

⁸² Wheatley, 82.

⁸³ *Ibid.*, 83.

⁸⁴ Foss, 6.

⁸⁵ Foss, 6.

This radical restructuring of Oticon had immediate effects. Prior to the restructuring, Oticon was unable to adapt to a changing hearing aid market largely due to conservative bureaucratic inertia. Once the radix organizational structure was implemented, “improved performance in terms of the use and production of knowledge was almost immediate, resulting in a string of remarkable innovations during the 1990’s. Improved growth and financial performance followed somewhat later.”⁸⁶

Clearly, the radix approach to organization offered key benefits to Oticon in how they adapted to a changing environment. Many radix theorists point to this success as a measure of the potential of the radix approach. Taking the analysis further, Wheatley notes these organizations move away from an Industrial-Age focus on deliberate planning and analysis. Instead, the radix-approach generates “the organizational conditions for people to set a clear intent, to agree on how they are going to work together, and then practice to become better observers, learners, and colleagues as they co-create with their environment.”⁸⁷ Obviously, this approach has significant implications for the role of leaders and the practice, even understanding, of leadership.

The first, and foremost, implication is that the traditional understanding of leaders and leadership is now in question. Schneider describes the situation this way:

⁸⁶ Ibid., 8.

⁸⁷ Wheatley, 46.

As the radix organization is primarily organized laterally across a flexible value chain, and the generation of social capital is viewed as critical to knowledge creation and competitive position, its leaders are involved in a multitude of intra- and inter-organizational relationships. Accordingly, the ontological basis for the leader's role-set, historically the leader's hierarchical position, should be changed.⁸⁸

Put simply; in an organization with complex webs of interaction, people interact with each other up and down the chain of command, across intra-organizational boundaries, and outside the organization.⁸⁹ As a result of this complexity, radix theorists argue that leadership cannot solely be understood vis-à-vis position anymore. Stakeholder theory attempts to re-cast leadership based on this understanding. It is 'drawn upon as the basis for the new nonhierarchical conceptualization of leadership...as stakeholders may include those inside the firm or outside of it, with no assumption of managerial authority over stakeholders.'⁹⁰ Schneider goes on to describe the role-sets played by leaders within the stakeholder model. She argues that non-traditional forms of authority are more applicable in the radix organization than more traditional forms of authority found in hierarchical settings.⁹¹ These non-traditional forms of authority are

⁸⁸ Schneider, 211.

⁸⁹ The web is a crucial metaphor for understanding the radix vision of organizational design.

⁹⁰ Schneider, 210.

⁹¹ Schneider, 216. Schneider uses a typology of authority developed by Elliot Jaques in 1976. Managerial and supervisory authorities have received the dominant attention in scholarship as they deal with the traditional right to direct and monitor subordinates in a hierarchical framework. The typology also includes staff authority (the right to advise, but not direct) and matrix authority (which is similar to staff authority). The nontraditional types authority, however, are much more important to radix organizations. Prescribing authority is similar to the relationship between a doctor and a nurse. The doctor prescribes actions, but does not, ultimately, directly evaluate the nurse. Monitoring/coordinating and collateral authorities are those that take place in lateral relationships.

much more focused at organizing and influencing rather than directing action. Thus, individuals may be put in leadership positions that have no formal authority over those they are expected to lead. As a result, they must employ these other forms of authority to organize action.

Some radical theorists go further in their treatment of leadership. Complexity leadership theory, as explained by Lichtenstein, et al., shifts the “emphasis away from the individual as leader...it recognizes that leadership transcends the individual by being fundamentally a system phenomenon.”⁹² This theory draws heavily from insights gained from complexity theory and systems thinking wherein the role of relationships (as opposed to agents) is given critical status. As such, “a complex systems perspective introduces a new leadership “logic” to leadership theory and research by understanding leadership in terms of an *emergent event* rather than a person.”⁹³ In this view, situational dynamics determine how an individual participates, whether as a leader or follower. Thus, Lichtenstein et al., argue that leadership is an emergent phenomenon, recognized within the interaction between people rather than in the people themselves, which “occurs when interacting agents generate adaptive outcomes.”⁹⁴ In this understanding, leaders “in the *formal* sense can enable the conditions within which the process occurs, but they are not the direct source of change.”⁹⁵

⁹² Lichtenstein, 3.

⁹³ Ibid..

⁹⁴ Ibid., 4.

⁹⁵ Ibid..

This approach to leadership within the radix organizational context poses distinct cultural implications. Notably, according to Lichtenstein, et al., “this approach encourages all members to *be* leaders – to ‘own’ their leadership within each interaction, potentially evoking a much broader array of responses from everyone in an organization.”⁹⁶ As such, the radix organization is envisioned to drive organizational responsibility downward in a way that brings about innovation and adaptive response to complex challenges. As noted in the Oticon example, the prevalent organizational culture is one of flexibility and adaptability.

However, there seem to be two imperatives inherent to the radix approach. First, the role played by vision becomes crucial. It is imperative that members of the organization understand and accept the organizational vision. If they do, then that vision becomes the organizing principle for action. No matter how innovative or novel, all actions reference that vision. Furthermore, this vision also clarifies organizational identity. In this way, norms of behavior and interaction between agents fall within certain organizationally accepted boundaries. For instance, Boal, et al., cite General Douglas MacArthur’s famous farewell address to West Point in 1962. In that address, General MacArthur’s words, calling for duty, honor, and country, “powerfully define[d] historical identity and guide[d] behavior for the cadets of the U.S. Military Academy.”⁹⁷ Approached this way, vision is not as much a destination as commonly understood in the

⁹⁶ Ibid., 8.

⁹⁷ Boal, 415. Although General MacArthur’s use of the motto “Duty, Honor, Country” was actually based on the words imprinted on the Military Academy’s coat of arms and not an original expression, per se, the words in his speech serve, and continue to serve, as a means of expressing the US Army’s organizational identity.

Industrial-Age mind set. Instead, “in creating a vision, we are creating a power, not a place, an influence, not a destination.”⁹⁸

The second cultural imperative is one of reflection. In a complex, adaptive environment, one must constantly strive to understand the systemic changes in relation to the organization. This imperative implies that the radix organization is characterized by tension. As noted by Boal, et al., these organizations should be held at “the ‘edge of chaos’ and out of stasis; without [which] no significant change can emerge.”⁹⁹ In the military context, Colonels Paparone and Reed argue “the more complex the [current operating environment], the more the body of professional military knowledge must remain in a state of purposeful instability.”¹⁰⁰ In order to weather this environment, members must, as stated above, engage in focused reflection. They note that each situation faced by an organization will be “contextually unique. Hence true professionals have to reflect on what the profession may otherwise take for granted and understand how to challenge assumptions.”¹⁰¹ They go on to argue that professionals must navigate the waters between

⁹⁸ Wheatley, 55.

⁹⁹ Boal, 412.

¹⁰⁰ Paparone, 66.

¹⁰¹ Ibid., 70. Unfortunately, the authors are unclear when and where reflection and reflective discourse takes place. The current mode, and one used widely throughout Industrial-Age organizations, is to undertake this kind of reflection via professional journals. The Radix-approach suggests that this kind of reflection and challenging of assumptions is an almost endemic trait of organizational members and must be a prevalent feature of organizational interactions.

“unquestioned belief in the certainty of assimilative wisdom to a radical, divergent form of skepticism.”¹⁰²

This approach results in organizational structures that are purposefully “under-determined.” Although theoretically and practically it is still in its infancy, many of the features are intentionally designed to be fluid and adaptive. Thus, the radix form of organization is intentionally fuzzy and aspires to a more flattened structure in which leadership is an emergent phenomenon produced through the interaction of agents (both from within and outside the organization). The culture in this type of environment is one that seeks to push responsibility in a downward direction. Many theorists treat the radix organization as a complex, adaptive social learning system. As a result, the culture is one in continuous tension from which, theorists argue, adaptive solutions emerge.¹⁰³ Underpinning this reality is the cultural imperative for organization around a vision and the practice of reflection among agents within the organization.

Merits of the Radix Approach

The radix approach offers definite benefits when compared to the Industrial-Age approach. In fact, they are direct responses to the failings of the Industrial-Age approach discussed above. The radix approach accounts for complexity and the need for adaptive

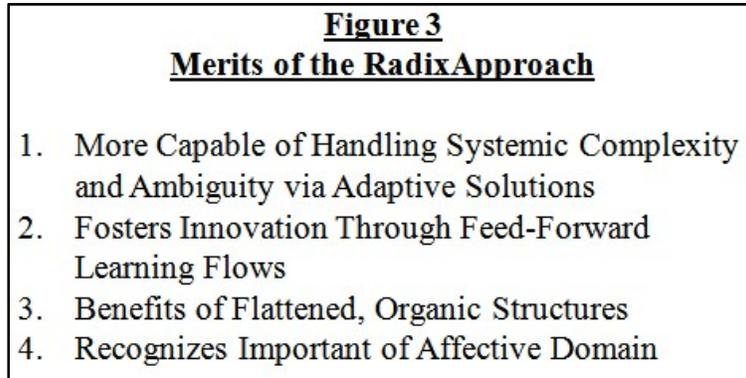
¹⁰² Ibid..

¹⁰³ The Oticon example is one in which this organizational structure demonstrated significant innovation and adaptability in the environment, resulting in a reversal of fortunes in its market share.

solutions, fosters innovation through feed-forward learning flows, reaps benefits of flattened structures, and recognizes the importance of the affective domain (see Figure 3).

The radix approach to organizational structure and leadership most importantly recognizes the need to deal with a complex, adaptive environment. Inherent in this recognition is

the fact that the theory underpinning the radix approach re-introduces the importance of concepts like systemic thinking, chaos and order, and the Principle of Complementarity.¹⁰⁴ First, of



the theories underpinning the radix approach, many begin by championing systemic thought. Theorists urge organizations to think systemically and look for relationships that underpin events. As noted by Senge, “the systems perspective shows that there are multiple levels of explanation in any complex system.”¹⁰⁵ On the surface is the level wherein events occur. This is the level where technical solutions are applied. At a much deeper level, however, is the systemic structure driving the system; a systemic structure “causing its own behavior.”¹⁰⁶ This kind of thinking

¹⁰⁴ Wheatley, 36.

¹⁰⁵ Senge, 52.

¹⁰⁶ Ibid., 43.

entails looking for relationships between agents as well as reinforcing/balancing feedback loops.

It is only through a process of learning about the system, via this kind of thinking, that organizations can take relevant action to make real change.

An interesting implication of an approach based on complexity is that it suggests that to make a relevant environmental change, the organization *itself* must undergo some change. To do so, the radix approach seeks to push organizations toward “the edge of chaos” knowing that only there can significant change occur.¹⁰⁷ The “edge of chaos” idea suggests that organizations which shy away from tension in an effort to seek stability tend to apply the same solutions in spite of a changing environment. These solutions are often irrelevant, inappropriate, or simply wrong. The idea of functional stagnation, discussed earlier, is another way to view this problem. On the other hand, if an organization forces itself to deal with the changing environment they will necessarily deal with the attendant threat to organizational identity. In doing so, however, they generate the kind of creative tension from which adaptive solutions emerge.

Finally, the radix approach’s recognition of complexity highlights the role played by the Principle of Complementarity. Quantum physics posits that matter includes the potential to be both particle and wave, at any given time. The problem is that these properties cannot both be measured at the same time. This fact, referred to as Heisenberg’s Uncertainty Principle, calls into

¹⁰⁷ Boal, 412.

question previously held notions about a “deterministic, quantifiable universe.”¹⁰⁸ Extrapolated to organizational theory, this principle suggests that extreme efforts to plan and understand a system will fall short because it is impossible to fully know reality. Thus, some theorists argue for a move away from debates over interpretations of reality and focus on “issues of effectiveness, on reflective questions of what happened, and what actions might have served us better.”¹⁰⁹ This understanding is key to becoming comfortable with ongoing adaptation in a changing environment, as well as the need for reflection while undertaking action. These are the crucial elements of adaptive solutions.

The only way that these adaptive solutions can be developed and implemented is through fostering feed-forward learning—the second merit of the radix approach. As described earlier, the 4I framework for institutional learning posits that individuals experience intuition as they try to cope with new information and environmental cues. As they discuss this intuition with other organizational members, they undergo successive iterations of interpreting and integrating the intuitive knowledge into organizational practice.¹¹⁰ These are fundamental processes in a learning organization. As noted in the Oticon example, the radix approach fosters the kind of dialogue which enables the transition from intuition to interpretation and finally to integration.

¹⁰⁸ Wheatley, 36.

¹⁰⁹ Wheatley, 37.

¹¹⁰ Vera, 225.

From an epistemological view, feed-forward learning flows generate divergent, accommodative, and convergent knowledge. These three types of knowledge are reflections of the cognitive processes of intuition, interpretation, and integration (respectively). Colonels Paparone and Reed describe divergent knowledge as that which emerges from an exploratory process aimed at generating “a new frame of reference and model of effectiveness – a paradigm shift.”¹¹¹ They cite the Army’s Louisiana Maneuvers of 1941 as an example of how a group of motivated, diverse professionals came together to work through the Army’s transition from cavalry to motor.¹¹² Unlike intuition, which occurs within an individual; the creation of divergent knowledge is a social phenomenon and, as such, requires extremely professional and trustworthy conduct on the part of those participating.¹¹³

Accommodative knowledge entails an active process of experimentation—learning in action—to test concepts and slowly transition understanding from the old frame of reference and transition to new environmental realities. This kind of knowledge feeds the development of convergent knowledge. As the environmental understanding coalesces and links between

¹¹¹ Paparone, 67. See also, Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3d ed. (Illinois: University of Chicago Press, 1996). The authors’ footnote to this statement note that this “essentially recapitulates Kuhn’s thesis about how scientific revolutions come about.”

¹¹² Paparone, 68. Other authors contend that the issue was not the transition from horse to motor; rather the issue facing the Generals in Louisiana was utilizing the maneuvers as “field laboratories for the armored, antitank, and air forces that had come of age since 1918.” Christopher R. Gabel, *The U.S. Army GHQ Maneuvers of 1941* (Washington D.C.: United States Army Center of Military History, 1991), 5. Nevertheless, the notion that the Generals at the maneuvers engaged in a process of divergent thinking remains a valid assertion.

¹¹³ *Ibid.*.

disparate pieces of accommodative knowledge becomes apparent, “highly abstract concepts transform into realizable knowledge goals and objectives that can be institutionalized as technical comprehension.”¹¹⁴ The radix approach is intended to foster divergent and accommodative thought and reap the benefits of innovation and intuition when facing complexity.

The Oticon example highlights the third, and closely related, merit of the radix approach—the inherent benefits of flattened organizational structures. As noted earlier, Fukuyama and Shulsky argue that the strength of these organizations is in their adaptability and their resilience.¹¹⁵ Clearly, the preceding argument demonstrates the value of adaptability and its presence in the radix approach. Regarding resilience, the radix approach is unique in that it can survive damage to its infrastructure and continue operating. For instance, although a spider web may be damaged, the web’s design permits it to remain intact.¹¹⁶ A current military example of this trait of resilience, as argued by Lieutenant Colonel Michael F. Beech, US Army, in a student strategy research paper for the US Army Center for Strategic Leadership is the Al Qaeda terrorist

¹¹⁴ Ibid..

¹¹⁵ Fukuyama, 19.

¹¹⁶ Wheatley, 145.

organization.¹¹⁷ In spite of the loss of significant agents within the organization, “al Qaeda retains a demonstrated ability to recruit and conduct operations globally.”¹¹⁸

Finally, the radix approach pays particular attention to the role played by the affective domain. Recognizing the social web of interaction, the radix approach tries to pool the mental resources of as many people in the organization as it can to generate adaptive responses to the environment. In understanding the social dimension, the radix approach seeks to avoid the danger of authoritarian leadership in stifling innovative thought. As noted by Wheatley, “when power is shared in such workplace redesigns as participative management and self-managed teams, positive creative power abounds.”¹¹⁹ She goes on to note that research has demonstrated increases in productivity and satisfaction within organizations that have undertaken such

¹¹⁷ Michael F. Beech, “Observing Al Qaeda Through the Lens of Complexity Theory: Recommendations for the National Strategy to Defeat Terrorism” (Student Issue Paper, United States Army War College Center for Strategic Leadership, July 2004), 3.

¹¹⁸ Ibid., 1. It should be noted, however, that although many still subscribe to this somewhat dated view of the state of Al Qaeda, current “facts on the ground” do not necessarily support so conclusive a judgment.

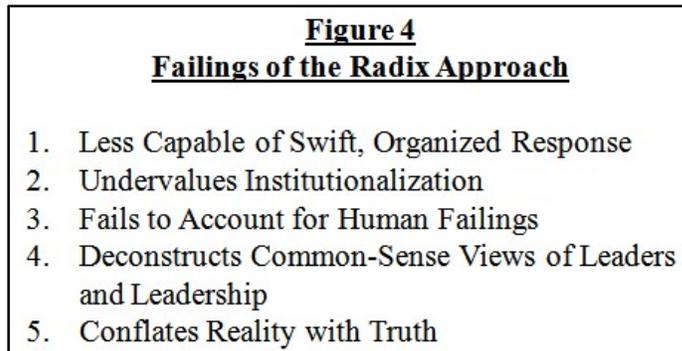
¹¹⁹ Ibid., 40. It is important to note that Wheatley conflates *authoritative* with *authoritarian* leadership. Authoritative leadership, a characteristic of Industrial-Age organizations, denotes leadership that is exercised with, by, and through the authority vested in an individual by virtue of their placement within a hierarchy. Wheatley suggests that Industrial-Age leaders “attempt to force better results through coercion and competition; sometimes they exhibit a flagrant disregard for people and their abilities.” This can be rightly thought of as authoritarian leadership. The two forms of leadership, however, are markedly different. One exists by virtue of organizational structure; the other by virtue of leadership skill (rather, lack thereof). An authoritative leader can encourage *or* stifle innovative thought.

programs.¹²⁰ The radix approach is designed to take advantage of organizational members abilities to understand and improve upon their function and empower them to do so.¹²¹

Failings of the Radix Approach

Given these merits, it might seem that the Scylla is the better choice. Recall, however, the Scylla did attack Odysseus' sailing vessel and ate six of his men. The radix approach is not without its failings. Unfortunately, these failings, like the Scylla, are potentially fatal to the entire organization if not well understood. The radix approach is less capable of swift, organized response, undervalues institutionalization, fails to account for faults in human nature, inappropriately deconstructs common-sense views of leaders and leadership, and finally the radix approach conflates reality with truth (see Figure 4).

First, as was discussed earlier, one of the key merits of the Industrial-Age approach is its



relative speed and efficiency, garnered largely due to the use of technical solutions. On the other hand, in favoring adaptability and adaptive responses, the radix approach lends less credence to clear

command and control structures and communication channels. Effective command and control is

¹²⁰ Ibid..

¹²¹ Schneider, 210.

an essential part of establishing unity of effort and unity of command. A clearly delineated command and control structure ensures that organizational members are protected from conflicting directives and strategies and can take swift, organized action. As stated in Joint Publication 3-0, *Operations*, “complex or unclear command relationships and organizations are counterproductive to developing synergy among multinational forces.”¹²² Likewise, established communication channels also prevent confusion and lack of coherence when organizational members attempt to work together and accomplish a task.

An instructive example of potential dangers associated with undervaluing command and control occurred during the John F. Kennedy presidency. According to Dale R. Herspring,

Key to the new president’s style of decision-making was group problem solving, with the president’s advisors working as a ‘debate team,’ and the expectation that every person (regardless of special expertise) would provide his or her frank opinion. Furthermore, the president often gave overlapping assignments. Kennedy, who considered the hierarchy...obstructive in nature, wanted a wide range of options and did not care where the ideas came from.¹²³

While this atmosphere may have offered the kind of creative tension President Kennedy was seeking, it posed significant problems for taking action. Herspring quotes General Maxwell Taylor’s comment that Kennedy’s leadership and organizational style “produced few clear and

¹²² Joint Publication 3-0, *Joint Operations* (Washington DC: United States Government Printing Office, 2006), II-11. The same is true even within the context of uni-national forces. The important point here is to understand that poor command and control relationship drastically hamper speed and efficiency of action.

¹²³ Dale R. Herspring, *The Pentagon and the Presidency: Civil-Military Relations from FDR to George W. Bush* (Lawrence: University of Kansas Press, 2005), 119.

properly considered recommendations.”¹²⁴ As a result, “participants often were not certain of their responsibilities, nor were decisions made in a clear and unambiguous fashion.”¹²⁵ This situation created unproductive tension and animosity during the many crises dealt with by the Kennedy Administration. When faced with the need for swift, organized action, the radix approach employed by President Kennedy was wanting.¹²⁶

Along these lines, scholarship has long understood the trade-offs between innovation and action. In 1967, Harvey M. Sapolsky published an article in *The Journal of Business* which, in concert with theorist James Q. Wilson, explored this tension. In it, Sapolsky identifies the “dilemma as follows: the factors that increase the probability that organizational participants will devise and present innovation proposals are precisely those factors that decrease the probability that the organization will adopt the proposals.”¹²⁷ He argues that the effort to create diversity of opinion and thought in order to foster innovation, in a sense, diffuses the organization’s ability to come together to implement those very innovations. More recently, David Perkins echoes these

¹²⁴ Ibid..

¹²⁵ Ibid..

¹²⁶ To be sure, when faced with the prospect of thermonuclear war, caution is the prime consideration. Herspring’s analysis, however, suggests that decisions, made by President Kennedy, were not clearly communicated nor was there a clear identification of offices of primary responsibility to execute those decisions. The issue at hand is not the degree of caution and calculation required to make a decision, it is the accountability structure, swiftness, and clarity with which that decision, once made, is implemented.

¹²⁷ Harvey M. Sapolsky, “Organizational Structure and Innovation,” *Journal of Business* 40, no. 4 (1967): 497.

conclusions when he states that a participative structure “introduces more information, ideas, and opinions to be integrated, so reaching a resolution can be harder.”¹²⁸ Thus, if the situation requires swift, organized response, the radix approach falls short.¹²⁹

The second danger posed by the Scylla is the fact that it undervalues institutionalization, the process whereby “organizations attempt to capture the patterns of interaction by formalizing them.”¹³⁰ This process embeds learning in the “systems, structures, strategy, routines, [and] prescribed practices of the organization.”¹³¹ In doing so, the organization, as an entity, learns and maintains an “organizational memory.”¹³² Radix theorists, however, point to the dangers of overvaluing these processes. Colonels Paparone and Reed colorfully describe the “procrustean bed” these processes create that bars divergent and accommodative modes of thinking.¹³³

¹²⁸ Perkins, 30.

¹²⁹ A relevant challenge to this argument can be found in swarm theory. Swarm theory points to the highly complex emergent patterns of behavior exhibited by a large number of relatively simple organisms based on a set of simple rules. For example, the motion of a school of fish can be described by a set of very simple rules governing distance between fish and reaction to threats. Some military units have attempted to implement the principles of swarm theory in their operations. Caution must be exercised, however, since successful “swarming” military operations require significant planning, significant dependence on technology, and clear designation of leadership authority to orchestrate actions and prevent fratricide. Military “swarm” operations cannot simply be considered “emergent behavior” of self-organizing agents.

¹³⁰ Crossan, 529.

¹³¹ Ibid..

¹³² Ibid..

¹³³ Paparone, 69.

In making these charges, however, they overstate their case. Rightly understood, institutionalized learning provides crucial standardization. Such standardization helps further learning because it gives organizational members common ground for action and reflection.¹³⁴ As an example, in 1999, several F-15C pilots from Elmendorf Air Force Base (AFB), Alaska were sent to augment the 493rd Fighter Squadron (FS) during Operation Allied Force. Their integration into 493rd FS operations was completely seamless. This was due to the fact that all AF fighter pilots within a major weapons system operate using the same doctrine and tactics, techniques, and procedures (TTPs). The augmentees quickly learned the relevant environmental differences and adjusted accordingly. Had no doctrine or TTPs been established, the time required to learn the necessary information would have increased prohibitively.

In addition, the “organizational memory” generated through institutionalization enhances an institutional identity. While radical theorists place great value on individual identity through empowerment and learning, they underestimate the importance of organizational identity. Time-honored organizational characteristics like esprit-de-corps solidify and secure organizational identity. In doing so, the organization can withstand the flow of members into and out of itself without significant disruption to its standard processes. In an environment where such processes have proven successful, an organization needs an effective system for preserving that

¹³⁴ Ibid.. To be sure, Colonels Papparone and Reed’s caution against uncritical acceptance of “the way we’ve always done things” is important. This is especially the case when formulating responses to complex, adaptive problems where “the old way” may be the irrelevant or even wrong way. However, more often than not, valid thinking and experience underpins these lessons-turned-to-standards and should not lightly be dismissed as a “procrustean bed” that impairs true professional thinking.

“organizational memory.” Likewise, when external forces threaten organizations identity, institutional inertia will fight that process. From a systems perspective, the institutionalization processes generate a balancing feedback mechanism that helps an organization weather environmental turbulence.

The third failing of the radix approach is that it does not account for weaknesses in human nature. Unlike the hierarchical organizational structure, which institutes protections against pride, greed, and envy, the radix approach offers no such protections. Nor does the radix approach address the assumptions about human nature made by the Chinese in 1100B.C., that “subordinates are independent, self-interested, and deceitful.”¹³⁵ In fact, many of the claims made by radix theorists ignore these assumptions. For instance, Schneider states “new practices are based upon the assumption that those who perform a function are capable of thinking about how to improve that function, and should be empowered to do so for the benefit of the organization.”¹³⁶ Wheatley echoes this sentiment when she argues “if people are free to make their own decisions, guided by clear organizational identity for them to reference, the whole system develops greater coherence and strength.”¹³⁷ The problem is people do not always engage in thinking about improvement, nor do they constrain their decisions to organizational identity. Furthermore, an organization founded solely on the social relationships between people is

¹³⁵ Rindova, under “What’s Interesting.”

¹³⁶ Schneider, 210.

¹³⁷ Wheatley, 87.

susceptible to undue influence from dominant personalities, regardless of the quality of their input. In the end, the radix approach takes a very optimistic view of human nature and in doing so creates organizations absent the structures that protect the organization when that view fails.

It is interesting to note that the hearing-aid manufacturer Oticon, mentioned earlier, failed as a radix organization and eventually re-established levels of hierarchy within its system. According to Foss, top tier management at Oticon felt it necessary to intervene with projects underway in the company in order to respond to environmental changes. This approach “clashed on a basic level with the rhetoric of widespread delegation of decision rights” that was the underlying premise of the radix approach.¹³⁸ As a result, motivation in the company suffered resulting in productivity losses. In response, the top tier management re-instated levels of hierarchy into the system to moderate the tension between upper-management interventions and lower-level project ownership. In the end, some degree of hierarchical organization mediated relational issues, so often caused by weaknesses in human nature, between the top management and the rest of the organization.

The radix approach also inappropriately deconstructs common-sense views of leaders and leadership—its fourth failing. It does this by over-emphasizing the fact that people can take on leadership roles regardless of their organizational position. The idea that a subordinate may “lead upward” is not a new one. But, by over-emphasizing that fact, radix theorists confuse notions of

¹³⁸ Foss, 22.

leadership and the importance of leaders. Lichtenstein, et al., argue that adaptive leadership is “an interactive event in which knowledge, action preferences, and behaviors change, thereby provoking an organization to become more adaptive.”¹³⁹ This definition is problematic because it more rightly describes adaptation, or perhaps adaptiveness, but not adaptive leadership.

Furthermore, they argue that leadership is an emergent phenomenon that takes place between people. Leadership is most certainly a relational phenomenon, however, the common-sense understanding of it includes the presence of followership. Thus, leadership is not a unitary, emergent phenomenon; rather it is a relational concept wherein leadership meets followership.

When this meeting occurs “knowledge, action preferences, and behaviors change.”¹⁴⁰ The distinction is crucial because a unitary understanding of leadership as an emergent phenomenon glosses over the behavioral and cognitive aspects of the leaders and followers in question. In essence, the radix organization tends to devalue the role of agent (leader or follower) in favor of relationship; however, to be accurate, both must be considered.

Likewise, the radix approach tends to view the Industrial-approach leader as simply a director or a manager. Radix theorists argue that the downward push of responsibility in an organization takes pressure off of formal leaders, “allowing them to attend more directly to identifying strategic opportunities, developing unique alliances, and bridging gaps across the

¹³⁹ Lichtenstein, 4.

¹⁴⁰ Ibid..

organizational hierarchy.”¹⁴¹ Ironically, this view identifies exactly the kind of *leadership* people in these positions should exercise. According to Boal, et al., “strategic leaders are in positions to bring people, resources, and knowledge together, and thus serve as a catalyst for adaptive systems.”¹⁴² This description of strategic leaders suggests that the leaders role in acting on the system by bringing resources together is an important aspect of leadership. Hence, leadership is not simply an emergent phenomenon, but it must also reference the actions of the leader himself.

Finally, the fifth failing of the radix approach is that it conflates reality with truth. As discussed earlier, quantum physics teaches that quantum matter “develops a relationship with the observer and changes to meet his or her expectation.”¹⁴³ In other words, if a scientist seeks to measure a waveform, the quantum matter will behave as a wave. Likewise, if a experiment is designed to measure particles. Extrapolating to organizational theory, Wheatley references organizational theorist Karl Weick who argued there is “no objective reality; the environment we experience does not exist ‘out there.’ It is co-created through our acts of observation, what we choose to notice and worry about.”¹⁴⁴ If that is so, she argues, organizations should “no longer waste time arguing about the ‘objective’ features of the environment. Conflicts about what’s true

¹⁴¹ Ibid., 8.

¹⁴² Boal, 414.

¹⁴³ Wheatley, 37.

¹⁴⁴ Ibid..

and false would disappear in the exploration of multiple perceptions.”¹⁴⁵ She goes on to suggest
“we could stop arguing about truth and get on with figuring out what works best.”¹⁴⁶

To a certain extent, Wheatley, is somewhat correct in identifying the “relative” nature of reality. To be more accurate, though, it is not the relative nature of reality, it is the relative nature of *human perception of reality* that is key. Thus, reality is “subjective” with respect to the human ability to witness and share experiences with that reality. No one person’s perception of reality is objectively more valid than any other. From this perspective, Wheatley concludes that conflicts about truth and falsehood should vanish in the exploration of multiple perceptions. It is a conflation of truth with reality.

Neither quantum physics, nor postmodern philosophy demonstrates that objective truth does not exist. Although they rightly challenge our ability to fully recognize it as such, neither field of inquiry demonstrates objective truth does not exist. On the other hand, falsehood can easily be established. There are infinite wrong answers to a math question and only one correct. The postmodern approach suggests that the continuum stretches from falsehood to nothingness.

This is a deadly way to view the world.¹⁴⁷

¹⁴⁵ Ibid..

¹⁴⁶ Ibid..

¹⁴⁷ Apart from the philosophical issues with the radix approach, one may also critique the extrapolation of insight from physical sciences onto social phenomenon. Although this is a rather common critique of these efforts, it is in no way diminished by that fact. One must tread carefully with these cognitive leaps as they often obscure crucial distinctions that invalidate the leap. For instance, uncritically

On the contrary, certain features of the world suggest the existence of objective truth. For instance, consider a red stoplight. The postmodern approach posits each human can actually perceive a different color. However, through a process of socialization, each unique human has been taught to recognize it as “red” and, thus, it becomes the societal norm. Scientific analysis, however, offers alternative ways to identify unique characteristics of the stoplight’s color. Wavelength measurements, spectral analysis, infrared measurements, and the like can be utilized across a broad collection of “red stoplights” to determine similarities confirming the human perception. This suggests the existence of the truth of the “redness” of the stoplight.

In another example, an angry crowd is threatening two soldiers. One, an experienced sergeant, has been in this situation before and recognizes contextual clues that the crowd is only protesting and holds no violent intention. The other, a green private, perceives the situation as threatening and concludes the crowd intends him harm. Both perceptions of the situation are equally valid. Each soldier witnesses the situation, reads the contextual clues, and frames the information from previous experience to develop an interpretive conclusion. The validity of the two different perceptions does not imply that both are equally true. If one soldier’s perception of

extrapolating insight from quantum physics onto social phenomenon obscures some very critical facets of those insights. First, Newtonian physics may actually be considered an emergent phenomenon from the interplay of quantum matter on an immensely larger scale. If that is true, then matter at that larger scale *can* be submitted to rigorous measurements with sufficient exactness for that scale of inquiry. Concluding that there is no observable “reality,” overlooks this distinction. Second, a crucial distinction between physics and social interaction is the presence of human free will. Quantum matter, regardless of how unpredictable and difficult to understand, in no way approaches the depth of difficulty in understanding how human free will interplays in social settings. It would be wise to take these leaps of insight from physics to the human social realm with a great deal of skepticism.

reality is more false than the other, it follows that one is closer to truth than the other. An action taken by the soldier whose view is false could result in irrelevant or, worse, lethal consequences.

Given such potentially dire consequences, an orientation to truth is an absolute necessity. In a sense, it is irrelevant whether or not one can actually apprehend objective truth; to assume it does not exist, though, leads to very dangerous conclusions.¹⁴⁸

In the end, the radix approach offers a challenging new understanding of organizational dynamics and leadership, promising to be more adaptive in today's complex and volatile environment. This adaptability is fueled through empowerment of organizational members in a flattened organization that favors feed-forward learning flows in which intuition generates divergent and accommodative knowledge spurring relevant organizational change. "The general sense these days is that highly connected networks are always a good idea and that self-organization can be trusted to achieve any objective."¹⁴⁹ Unfortunately, as Bar-Yam argues, these claims are too strong. In fact, many of the failings of the radix approach stem from overly strong assertions. Seeking to correct the perceived ills of the Industrial-Age approach, the radix

¹⁴⁸ Such conclusions include the argument that experience is irrelevant. The argument suggests that if individual perceptions of reality are equally valid then no one perception is objectively "better" than another. Furthermore, given a complex, adaptive environment, experience may in fact provide an erroneous or irrelevant frame with which to view environmental cues. While this may certainly be true with regard to the situation at hand, experience is a much deeper phenomenon than simple familiarity with events. From a systemic view, experience also entails an understanding of patterns of human interaction, environmental patterns of action, and the presence of feedback mechanisms. Often the perception of these environmental aspects (those that exist at a much deeper level than simply "event") is a product of experience.

¹⁴⁹ Bar-Yam, 15.

approach undervalues swift, organized response, dismisses institutionalization, fails to account for faults in human nature, and inappropriately deconstructs common-sense views of leaders and leadership. Finally, and most troublesome, the radix approach conflates reality with truth.

Odyssean Leadership

Thus sits Odysseus. On one side of the strait awaits the bureaucratic Charybdis ready to stifle creativity and adaptability in a way that will ultimately spell destruction for the organization. On the other, lies the adaptive Scylla ready to paralyze the crew with indecision, miscommunication, and potentially destroy the organization's identity by dismissing truth. What does Odysseus do with these, admittedly, extreme views? Mythology tells us that he chose a course between the two. In the organizational theory and leadership context, this would suggest that the effective leader should seek a context-sensitive balance between the two extremes. As noted by Bar-Yam, many of the attempts to apply complexity theory "do not consider important trade-offs and paradoxes."¹⁵⁰ These trade-offs and paradoxes suggest "the solution to a problem has to be related to the type or structure of the particular problem."¹⁵¹

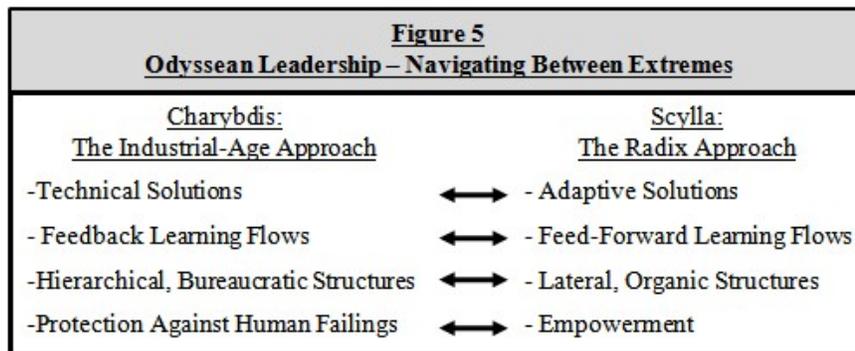
The Odyssean leader attempts to navigate between the merits of both the Industrial-Age approach and those of the radix approach in a context sensitive manner to achieve effective results. In doing so, the Odyssean leader employs boundary questions to maintain a correct heading. These questions, derived from the failings of the two approaches, help identify potential

¹⁵⁰ Ibid..

¹⁵¹ Ibid..

problems areas in which the leader or the organization may need to alter its approach. Thus, the Odyssean leader is a context-sensitive, systemic thinker who balances *adaptation versus action*; *feed-forward learning versus feedback learning*; *flattened versus hierarchical organizational structures*; and *empowerment of subordinates versus their control* (see Figure 5).

Clearly, some leaders will have greater influence over these issues than others. A company commander can only alter his organizational design so much when compared to the organizational authority maintained at the flag-officer level. Nevertheless, leaders at all levels have some measure of control over organizational design, learning flows, and leadership



approaches. Recent scholarship supports this idea that effective leaders utilize different leadership styles and approaches based on context. Professors Vera and Crossan argue that “at certain times organizational learning processes thrive under transactional leadership, and at other times they benefit more from transformational leadership.”¹⁵² Writing for *Harvard Business Review*, Daniel Goleman notes that “leaders with the best results do not rely on only one

¹⁵² Vera, 226.

leadership style; they use most of them in a given week—seamlessly and in different measure—depending on the business situation.”¹⁵³ Finally, in reflecting on the demands on leadership, General Gordon R. Sullivan, former US Army Chief of Staff, likens leadership to improvisational jazz music. “Versatility—the improvisation of the jazzman—has been a hallmark of great leaders in the past and is in even greater demand today.”¹⁵⁴ Written in 1994, this statement was rather prescient.

This kind of versatility and ability to employ different leadership and organizational approaches is, therefore, an important quality. Having reviewed the nature of the dangers on either side of the strait, the navigational cues become evident. How then does the Odyssean leader proceed with balancing the merits of each approach while avoiding their failings? To achieve such a balance, the Odyssean leader looks to the dangers on either side of the strait. These, the failings of the Industrial-Age and Radix approaches, can be formed into “boundary questions” which assist a leader’s recognition of contextual clues to help navigate.

Adaptation versus action

Organizations in a complex, adaptive environment must have the capability of adapting in order to remain relevant. In the business world, if the market changes drastically, a company

¹⁵³ Daniel Goleman, “Leadership That Gets Results,” *Harvard Business Review* 78, no. 2 (2000): 78-79.

¹⁵⁴ Gordon R. Sullivan, “Leadership, Versatility, and all that Jazz,” *Military Review* 77, no. 1 (1997): 52.

that unthinkingly remains in an irrelevant niche will soon cease to exist. Certainly, in a military context, the organization must adapt to environmental changes or enemy actions or risk destruction. On the other hand, the process for generating adaptiveness threatens the capability to take action. Certainly, an organization that fails to take relevant action risks extermination. Thus, a balance is required. Looking toward the Scylla, an Odyssean leader would ask: “Is the organization inappropriately delaying action given environmental time constraints?” With that answer in mind, the Odyssean leader next turns his gaze toward the Charybdis and asks, “Does our organization need to change in order to respond with relevant action to the environment?” Taken together, the answers to these questions will hopefully inform the leader’s efforts to strike a balance between in needs of adaptation and action.

Feed-forward learning versus feedback learning

As discussed in the 4I framework for organizational learning, learning flows proceed both backward and forward within an organization. Both tend to thrive better or worse based on the environmental conditions. According to Vera and Crossan, transformational leadership tends to be favored in turbulent and uncertain environments. They argue this kind of leadership fosters feed-forward learning as organizational members struggle to understand the changed situation. Transformational leadership also fosters, but to a much less extent, feedback learning flows in these kinds of environments. In stable and certain environments, however, they suggest that

transactional leaders will have a positive impact on feedback learning.¹⁵⁵ Transactional leaders “focus on strengthening existing structures, culture, and strategies, and...pursue efficiency by exploiting and refining current ways of doing things.”¹⁵⁶ On the other hand, in a turbulent environment “transformational leaders enhance individuals’ self-confidence and self-efficacy, help them to see the environment as a source of opportunity, and encourage them to engage in feed-forward learning processes.”¹⁵⁷

With this construct in mind, the Odyssean leader looks to Scylla and asks, “Do we need to employ resources to capture, codify, and disseminate what we have just learned?” The answer to this question may indicate the quality of feedback learning processes in the organization. Looking to the other side of the strait, the Odyssean leader asks, “Are subordinates protected from bureaucratic pressure sufficiently to allow them the room for divergent and accommodative thought?” The answer to this question will help a leader gauge the need for intervention in the hierarchical system to allow subordinates room to engage in feed-forward learning processes (especially in a turbulent, uncertain environment where hierarchical interventions tend to increase).

Flattened versus hierarchical organizations

¹⁵⁵ Vera, 234.

¹⁵⁶ Ibid..

¹⁵⁷ Ibid., 233.

In his book *Structure in Fives: Designing Effective Organizations*, organizational theorist Henry Mintzberg echoes the claim that organizational structures should be contextually dependent.¹⁵⁸ Specifically, he utilizes an environmental matrix based on two characteristics: stability and complexity. Given that framework he argues that simple, stable environments yield centralized, bureaucratic organizations; complex, stable environments yield decentralized bureaucratic organizations; dynamic, simple environments generate centralized organic structures; and dynamic, complex environments produce decentralized organic types of organizations.¹⁵⁹ In contrast with Mintzberg, however, insights from complexity theory suggest that not only does the environment produce relevant organizational structures, but also that the organization is also capable of taking action within and upon the environment. If this is so, then the Odyssean leader must carefully appraise the environment and decide upon the appropriate organizational form. In doing so, boundary questions are helpful.

Looking towards Scylla, an organizational leader might ask three questions: 1) How stable and complex is this environment? 2) Do organizational members clearly and easily understand communications channels as well as the command and control architecture? 3) Are conflicting directives minimized to the maximum extent practical? Answers to these questions could shed light on the appropriateness of the organizational structure based on the environment

¹⁵⁸ Henry Mintzberg, *Structure in Fives: Designing Effective Organizations* (Englewood Cliffs, NJ: Prentice-Hall, 1993), 144.

¹⁵⁹ *Ibid.*, 144.

and the potential problems a radix approach might be causing. Shifting his gaze towards Charybdis, the organizational leader asks, not only about the environmental conditions, but also “Are organizational boundaries duplicating work, preventing lateral communication, or preventing needed coordination?” These questions shed light on potential problems caused by non-porous hierarchical boundaries and the husbanding of knowledge.

Empowerment versus control

Finally, the Odyssean leader must turn his attention to the tone and structure of the social setting of the organization. On the one hand, organizational members can be given a great deal of flexibility and authority to take the initiative and actively work to improve their respective functions. On the other hand, however, some people in an organization may not be as self-motivated to seek such improvements or to maintain such discipline. Worse, some people allow pride, greed, or envy to get the better of them and they potentially take advantage of freedoms offered by an empowerment philosophy. Unfortunately, navigating these waters requires shrewdness of judgment about human nature and wisdom in discerning motive. It is, perhaps, the most difficult part of the journey.

Nevertheless, the Odyssean leader must continue. In doing so, he looks toward Scylla and asks, “Are organizational members taking initiative, thinking critically about organizational issues, and taking relevant action to remedy those issues or do they seek inappropriate personal gain, avoid work, or domineer the social setting?” Examining the other side of the strait, the Odyssean leader asks, “Do regressive archetypes of interaction dominate within the organizational social structure? Is the organization inhibiting free thought and critical judgment through excessive control measures?” These questions may point to organizational areas that need attention, either through empowerment of motivated people, or increased control structures to protect the organization.

Having gone through this lengthy theoretical treatment, two important discussions are necessary. First, how is the U.S. Army doing in the face of this increasing complexity? Second, what are areas for further research?

As was stated in the introduction, it has somehow become vogue to claim that the U.S. Army is incapable of adapting to a nimble, complex enemy.¹⁶⁰ That is simply not true both from a historical perspective and from an examination of the current conflicts in Iraq and Afghanistan.

First, ever since the genesis of Special Forces, the military has possessed an institutional capability to deal with both scale and complexity. As was described earlier, organizational decisions involve a trade-off between scale and complexity. Favoring scale in the organization results in relatively simple structures capable of achieving large-scale impact. Bar-Yam uses the Roman Legion as an example of scale; regular Army forces can also be thought of in this light.¹⁶¹

On the other hand, organizations that favor complexity are more able to deal effectively with environments that require fine-scale, complex solutions. In a military context, this kind of organization must be highly trained, well equipped, and extremely adaptive—hallmarks of Special Operations Forces. Possessing both the capability for large-scale effects and highly complex solutions, the U.S. Army is well suited to respond to a wide range of threats.

¹⁶⁰ Grant, 38.

¹⁶¹ Bar-Yam, 68.

The Army's performance in Operations ENDURING FREEDOM and IRAQI FREEDOM bear this out.¹⁶² In fact, the U.S. military (as well as other interagency actors) employed a "radically different military strategy in Afghanistan from that in the Gulf War in 1991."¹⁶³ Through the use of Afghan fighters, U.S. Special Forces, and coalition airpower, the Taliban regime was quickly destroyed and replaced. The employment of this radically different strategy demonstrates the military's adaptiveness in the face of exigencies.

Likewise, the U.S. Army demonstrated considerable adaptiveness during Operation IRAQI FREEDOM. *On Point II* describes the U.S. Army's response to the Iraqi insurgency in the middle of 2003. "Without relying on doctrine or experience, US Army units transitioned to a practice of full spectrum operations that, by the end of 2003, followed many well-established principles of counterinsurgency warfare."¹⁶⁴ This was done largely without coherent direction from higher echelons of command. Thus, regular army units acted autonomously in ways that reflected the use of divergent, accommodative, and convergent knowledge. In essence, these army units demonstrated the use of feed-forward learning flows to generate adaptive solutions to a highly complex problem-set. Colonel Brown highlights several examples of how lateral

¹⁶² This discussion is purposefully limited to the US military experience in Iraq and Afghanistan since September 11, 2001. There are numerous examples of organizational adaptation and adaptive leadership from Bosnia, Kosovo, and many other military operations. This discussion, however, in an effort to counter many critiques based solely on operations in Iraq and Afghanistan, is limited to the same.

¹⁶³ Bar-Yam, 17.

¹⁶⁴ Timothy R. Reese and Donald P. Wright, *On Point II* (Fort Leavenworth, KS: US Army Combined Arms Center, 2008), 87.

information flow and decentralized organizational control resulted in highly efficient and effective operations against insurgents in 2005.¹⁶⁵

Furthermore, within the same month that President Bush declared the end of major combat operations, Army units in Iraq underwent significant reorganization. “One type of reorganization was to increase the number and types of units under a commander’s authority.”¹⁶⁶ *On Point II* describes how, in June 2003, the 1st Armored Division added three “major combat units...to its already large complement of three maneuver brigades and other supporting elements.”¹⁶⁷ Thus, unlike the typical Army hierarchy where a commander may only have three subordinate elements, some commanders in Iraq directed over six subordinate elements. In essence, the U.S. Army recognized the need to flatten its organization in response to an increasing environmental complexity. Thus, cries that the U.S. Army has not adapted because it is too hierarchical and bureaucratic grossly overstate the case.

Nevertheless, one cannot escape the conclusion that things in Iraq did not go well. That fact gives rise to other areas of research that should be considered. First, further research should examine the issue of timeliness with respect to adaptation. How do organizations recognize environmental change and how does timing affect the relevance of change. Second, further research should examine how phase transitions affect organizational structure. Can the military

¹⁶⁵ Brown, 32-44.

¹⁶⁶ Reese, 126.

¹⁶⁷ *Ibid.*.

anticipate general environmental characteristics as operations transition from one phase to the next? If so, can these characteristics inform potential organizational change in such a way that the military can incorporate those changes into planning? Finally, the third area for further research relates to the part technology plays in organizational structure and leader roles. What are the effects of technological improvements in communication and intelligence, surveillance, and reconnaissance vis-à-vis organizational structure and leader roles?¹⁶⁸ The results of this research will benefit Odyssean leaders as they seek the proper balance in response to environmental changes.

Conclusion

Unfortunately, Odysseus lost six of his best men as he sailed the strait. Seeking to achieve the best organizational structure and most appropriate leadership approach in a complex, ambiguous environment is very difficult. The process involves tension and, often, loss. These facts, however, should not dissuade an organization or its leaders from striving for relevance. Odysseus may have lost six men, but the ship sailed the strait and eventually returned home. Successful navigation of these waters ensures organizational longevity, relevance, and effectiveness.

¹⁶⁸ See, for example, Tommy Sowers, “Nanomanagement: A Challenge to Those Combating Terrorism,” *CTC Sentinel* 1, no. 5 (April 2008): 14-16. In this article Major Sowers, US Army, describes how upper echelon commanders, through the technology provided by Predator unmanned-aerial systems, instantaneously transcend several layers of hierarchy to direct at the tactical level. In this case, an Industrial-Age organization is artificially flattened thanks to technology. The cost herein is that the upper-echelon commander loses sight of the concerns of upper-echelon command.

Some environments require organizations that are hierarchical and bureaucratic in nature. These structures, in which leaders are understood to be in defined institutional positions, are capable of swift, organized action. They provide clear command and control structures and organize communications to preclude confusion. Furthermore, these Industrial-Age structures are designed to protect the organization from human failings. Finally, these organizations are adept at generating an “organizational memory” through institutionalization. Unfortunately, however, Industrial-Age organizations do not deal well with complex environments nor do they account well for the importance of the affective domain of interaction between people. Finally, bureaucracies tend to build upon themselves and grow in ways that ossify their adaptive capabilities.

In response to these issues, organizational and leadership theorists seek another answer. Under a broad umbrella, referred to here as the radix approach, these theorists attempt to design flatter organizational structures that take the social structure of an organization into account and empower organizational members for innovative, adaptive solutions. Some go to far. As a result, they discount human failings, undervalue institutionalization, and inappropriately deconstruct leadership. In addition, radix organizations are less capable of swift, organized action. Finally, many of these theories are supported by arguments that dangerously conflate reality with truth.

There is another way of looking at organizations and leadership that transcends the debate between vertical and horizontal. Instead, complexity theory teaches us that the answer lies in understanding and manipulating trade-offs. It teaches us that the answer is often not “either/or,” but rather “both/and.” Thus, Odyssean leadership seeks the relevant balance between the merits of both approaches. The Odyssean leader balances adaptation versus action, feed-forward versus feedback learning flows, flattened versus hierarchical structures, and empowerment versus control of subordinates. In doing so, the Odyssean leader, oriented toward

truth, asks boundary questions in order to assess the environment. The answers to those questions provide the contextual clues that assist in navigation.

In the end, every organization must navigate between the Scylla and Charybdis, and for the military, the stakes are dangerously high. Nevertheless, organizational leaders are expected to execute the kind of leadership that takes the organization through to the other end of the strait.

Odysseus did.

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