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WHY AN EVOLUTIONARY VIEW OF LEADERSHIP?

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Evolution has been shrouded in controversy since *before* Darwin published his seminal theory of natural selection. He waited over two decades after working out the basic ideas before publishing *On the Origin of Species*, largely due to concern about public backlash (Browne, 1995). A century-and-a-half later, evolution is still a political flashpoint. Witness how the community of Dover, Pennsylvania was torn apart in 2005 by the school board's attempt to downplay evolution and recommend intelligent design to high school students in science class.

It might be useful to ask why evolution is such a controversial subject. As a case of empiricism clashing with idealism, evolution is an explanation of the awesome diversity and complexity of life based on natural processes. It replaces supernatural explanations with a natural one. And this challenges something present in every known human society: a creation myth that explains where people come from and their place in the world. These stories are powerful; they give a group its identity and individuals meaning and purpose to face the exigencies of life. Accordingly, they are phenomenally resistant to change.

Evolution is a unique creation story. It is based on observations and empirically tested propositions. It is fact-based as opposed to ideologically inspired. Moreover, evolution is supported by an overwhelming amount of evidence from every branch of biology—from botany to zoology, including specialized fields like molecular biology and genetics (see comprehensive reviews in Futuyma, 1983; 1998; Ridley, 1996; Strickberger, 1996). Literally thousands of studies from these diverse perspectives draw a remarkably consistent conclusion pointing to evolution. No other framework can integrate, organize, and account for so many facts. As noted by the late, great modern biologist, Ernst Mayr, "these findings would make no sense in any other explanation" (2001; p. 13).

In short, evolution is the most comprehensive, empirically supported, and clearly articulated explanation of the living world. It may very well be the crowning intellectual achievement of humanity. And this makes it a touchstone for all other explanations, including those in the human sciences. That is, for a theory of any social or psychological phenomenon to be viable, it must at least be consistent with what is known about the evolution of our species. Better yet, the theory will consider the origins, nature, and function of its proposed causal mechanisms (Barkow, Cosmides, & Tooby, 1992; Buss, 1999; Pinker, 1997; 2002; Symons, 1987).

Opportunities in Leadership

Leadership is an important topic in the social sciences, with implications for the quality of life for employees and citizens, the success of institutions, and even the fate of societies (Hogan, Curphy, & Hogan, 1994; Hogan & Kaiser, 2005). The study of leadership has blossomed as a scientific discipline over the last century and is increasingly drawing the interest of young scholars around the globe. Yet the field has always had its shortcomings. Above the din of criticism have been three perennial concerns: definition, integration, and explanation.

Author note: I am grateful to Bob Hogan for the inspiration to pursue this topic. Many of the ideas discussed in this paper have been shaped by his scholarship and in conversations with him.

First is the problem of definition. It has been said that there are as many definitions of leadership as there are those that write about it (Stogdill, 1974, p. 7). Further, many authors writing on the subject of leadership do not define the term. Without a clear statement about what leadership means in a given paper, it is difficult to evaluate research methods and compare findings across studies. This leads to the second problem, integration.

The literature on leadership is fragmented (Bass, 1990; Chemers, 1997; Hogan & Kaiser, 2005; Van Vugt, in press; Yukl, 1998). There is abundant research on individual differences, leadership emergence versus effectiveness, and numerous leader behaviors and their correlates and moderators. But it isn't clear how these findings are related. For instance, why are tall, physically fit, assertive, confident, disciplined, and intelligent men more likely to emerge as leaders? What does this have to do with the fact that charismatic leaders are most effective in a crisis (Tosi, Misangyi, Fanelli, Waldman, & Yammarino, 2004) while structured leaders are more effective in highly favorable situations and considerate leaders fare better in more moderate circumstances (Schriesheim, Tepper, & Tetrault, 1994)? The field lacks a comprehensive framework for weaving empirical generalizations into a compelling account of leadership (Hogan & Kaiser, 2005).

The third limitation of leadership research concerns explanation. Most leadership research is cross-sectional and correlational (Bass, 1990). By definition, such designs preclude causal inferences. Aside from logical and methodological nit-picking, it is fair to say that leadership theory offers relatively "shallow" explanations. For instance, consider how transformational leadership augments transactional leadership in predicting team performance (Bass, 1985). Why? We might first consider *proximate* causes, such as the different effects the two styles have on follower motivation (*a la* Bass, 1985). But this begs further "why" questions—why does intellectual stimulation motivate followers more than a fair exchange of reward for effort? Why are some leaders more stimulating? Why questions draw all the way back to *functional* or *ultimate* causes that concern origins (Buss, 1995; Tinbergen, 1963). Such an ultimate explanation of leadership, broadly speaking, has yet to be articulated and tested empirically (Van Vugt, in press). Why are there leaders and followers—what is the ultimate purpose of these social roles?

I propose that these challenges to the leadership field—definition, integration, and explanation—will prove elusive until theory, research, and practice are grounded in an understanding of human nature. I further propose Evolutionary Psychology as a conceptual framework to meet this ambitious goal (see also Nicholson, 1997; 2000). Evolutionary approaches have solved old dilemmas, opened new doors, and revitalized other areas of the human sciences, from economics (e.g., Shogren, Horan, & Bulte, 2005) to sociology (e.g., Freese, Li, & Wade, 2003) to organizational behavior (e.g., Ilies, Arvey, & Bouchard, 2006). There is no reason to assume it could not do the same for the field of leadership. To that end, a brief summary of Evolutionary Psychology is in order.

Evolutionary Psychology

Evolutionary psychology (EP) is an emerging interdisciplinary field primarily rooted in cognitive science and evolutionary biology that also incorporates insights from such wide-ranging disciplines as anthropology, archeology, ecology, ethology, zoology, genetics, and artificial intelligence. Introductions to the field abound: papers by Buss (1995), Tooby and Cosmides (1990), and Cosmides and Tooby (1997); books by Pinker (1997) and Buss (1999); and the landmark edited volume, *The adapted mind* (Barkow et al., 1992).

A Brief Overview

The goal of EP is to consider the adaptive problems faced by our forbearers to construct a conceptualization of human nature—that is, to explain why we are what we are as a function of what was required of our ancestors to survive and reproduce. But EP is far more than a methodology; it is a way of thinking about human affairs that, when fully considered, cascades from theory to method to application (Cosmides & Tooby, 1997).

In EP, *Homo sapiens* is seen as an advanced, 150- to 200 thousand year-old design optimized for group living in hunter-gatherer tribes on a hostile African Savannah. The great majority of our species' existence took place in these conditions (Boehm, 1999; Diamond, 1997; Foley, 1997). The human brain is regarded as an engineering marvel with fixed functional properties and a pre-wired set of modules and instincts for negotiating that environment (Buss, 1999; Pinker, 1997). And as the most cognitively complex creature, humans are the masters of the apex of social technology—culture (Barkow et al., 1992; Dawkins, 1976). Despite cross-cultural differences, there are substantial cultural universals (Brown, 1991) which constitute human nature—what we are all like way down deep. Our nature is a product of adaptation to hunter-gatherer life on the Savannah. As Nigel Nicholson (2001) of the London Business School put it, you can take the man out of the cave but you can't take the cave out of the man. Understanding this ancestral past is the key to understanding modern humans and sheds light on persistent problems in the human condition.

From an evolutionary point of view, that which exists—physical features, brain circuitry, behavioral tendencies—does so for a functional purpose: it helped to solve a problem in living and reproducing. Crucially, EP proposes that the brain is made up of myriad mechanisms referred to as psychological adaptations that evolved by natural selection (Buss, 1999; Cosmides & Tooby, 1997; Pinker, 1997). Darwin's singular contribution was to identify this process as the primary means by which evolution takes place. There are three critical concepts in natural selection: variation, heritability, and selection (Lawrence & Nohria, 2002; Mayr, 2001). Variation refers to individual differences in some attribute. Heritability means that there is a genetic component to that attribute—that relatives are more alike than are non-relatives. And selection means that some attributes facilitate survival and/or reproduction whereas others do not; attributes that enhance survival and reproduction will propagate throughout a population over successive generations (i.e., will be "selected"). Attributes that impede survival and reproduction will be similarly selected out of a population over time.

Darwin established his theory of natural selection despite not knowing anything about the causal mechanisms that make inheritance possible. There was no concept of the gene then, which we now know to be the medium that transmits attributes to successive generations (Dawkins, 1976; Keller, 2000; Mayr, 2001). Genes are encoded in cellular DNA and are passed down from parent to offspring. Through a process of fantastic complexity driven by interaction with the environment, genes regulate the production of amino acids that affect the physical development of cells, the release of hormones and neurochemicals, and, eventually, perceptual, cognitive, emotional, and behavioral processes (Dawkins, 1976; Keller, 2000). There is substantial evidence for a strong genetic component to most individual differences that matter in psychology, such as personality and intelligence (Loehlin, 1992). In fact, brain development has a very strong genetic component—intelligence, for instance, is one of the most heritable psychological characteristics; over half the variability in IQ scores is attributable to genetic factors (Bouchard, 1997; Plomin & Spinath, 2004).

Adaptive Problems in Human Evolution

According to Cosmides and Tooby (1997), there are three interconnected levels of analysis in EP: first is the adaptive problem posed by the environment, second is the cognitive circuitry designed to process information associated with that adaptive problem, and third is the neurophysiological substrate underlying the cognitive structure and process. Thus, a fundamental consideration in EP is the range of adaptive problems that threatened individual survival and reproduction over human evolutionary history; these are the problems we are born to solve.

Human beings are first and foremost individual biological animals. Basic adaptive problems include breathing oxygen, acquiring food and water, taking shelter from the elements, and defending oneself against predation. Thus a primary force promoting survival is self-interest. After all, individuals who couldn't look after themselves wouldn't survive long enough to reproduce. Without instincts for self-preservation and self-enhancement in our distant relatives, you and I wouldn't be here today. This evokes the "selfish gene" argument that prevails among modern Darwinists (Dawkins, 1976). Nonetheless, we are also intensely social creatures. Indeed, group living is thought to be a key survival strategy of humans and our nearest relatives, the Great Apes (Alexander, 1979; Brewer & Caporael, 1990; de Waal, 1996). This strategy appears to trace back to insects and even the earliest forms of life, cyanobacteria (Wilson, 1975). No human is an island: prolonged isolation promotes physiological and psychological degeneration—apatosis at the cellular level, psychosis at the mental level (Bloom, 1997). Moreover, independent living was a death sentence on the Savannah; as the saying goes, there is safety in numbers. Thus many of the genes that have been selected for are those that promoted traits that facilitate harmonious relations—sociability, altruism, cooperation, loyalty, and fear of ostracism, to name a few (Axelrod, 1984; Baumeister & Leary, 1995; Buss, 1995; 1999; D. T. Campbell, 1965; Wilson & Sober, 1994).

But banding together wasn't a generic survival strategy; rather, it worked in a very selective way. Lethal inter-group competition was also part of our heritage. Both the anthropological record and studies of modern-day hunter-gatherers have debunked the romantic myth of "the good old days in the cave." The evidence suggests that Hobbes was quite right in his assertion that life for our ancestors was "Nasty, brutish, and short" (e.g., Bloom, 1997; Boehm, 1999; Chagnon, 1997). Violent competition between rival groups over scarce resources (e.g., access to water sources, fertile fruit forests, good hunting ground) was the norm (Buss, 1999; Chagnon, 1997; Wrangham & Peterson, 1996). This competition exerted two kinds of adaptive pressure: on the one hand, it promoted within-group solidarity; on the other hand, it promoted between-group hostility (D. T. Campbell, 1965; Wilson & Sober, 1994)—nothing brings people together like a common enemy.

The foregoing highlights selection pressures thought to have had a significant impact on shaping the social aspects of human nature. First is the tension between selfishness and altruism. Rather than a contradiction, these opposing drives are thought to be at play in all of us, often simultaneously. They are the dominant themes in much of the drama in life (Guisinger & Blatt, 1994; Wiggins, 1991). Hogan (1983) called attention to this in his socio-analytic theory of personality—the competing urges to "get along and get ahead." In Anthropology, Boehm (1989) has articulated an ambivalence model to emphasize how these two motives create a dynamic tension that must be actively managed, both within and between individuals. And the brutal competition between the various hominid and early human groups has also left its imprint—first by reinforcing group living and second by putting a premium on defending against and

overcoming rival groups. This provides the jumping-off point for a discussion of how an evolutionary view can enhance the field of leadership.

Applications to Leadership

The remainder of this essay considers how an evolutionary approach to leadership can benefit the field. First, I will show how it helps in addressing the issues of definition, integration, and explanation. Then I will suggest how an evolutionary approach can lead the field out of old dogmas and into new insights.

Definition

An evolutionary account of leadership calls attention to its adaptive value. A moment's reflection on relations within-groups and between-groups in our ancestral past is instructive. Within any social group Boehm's (1989) ambivalence is playing out: individuals compete with each other for status—the familiar pecking order that determines who gets what (food, mates, artifacts, privilege). The self-interest drive encourages individuals to maximize their status and resources. But these are finite commodities; so the selfish inclination within each group member produces intragroup conflict (Wrangham & Peterson, 1996). At the same time, these individuals are also interdependent for survival: two heads are better than one, as are two hunters, two warriors, and so on. In the context of a hostile Savannah indifferent to human fulfillment characterized by unpredictable climatic changes, haphazard food supplies, and capably murderous predators, groups that could coordinate collective activity (hunting parties, moving to find water, seeking shelter) and make better group decisions were at an advantage. And in terms of the deadly competition between rival groups, those groups that could set aside their internal differences had an advantage over those that could not. Groups that could cooperate, coordinate, and band together overcame groups riddled by internal conflict (D. T. Campbell, 1965; de Waal, 1982; Hogan & Kaiser, 2005; Mayr, 2001; Wilson & Sober, 1994).

So the question arises: what compels self-interested individuals to transcend purely selfish goals and sacrifice for the greater good? A popular type of answer in American psychology is that "the situation makes them do it": in this case, the conventional wisdom says the threat of starvation, predation, or attack from outsiders "makes" people respond rationally and join forces. But this is inconsistent with research indicating that rationality is rarely a basis for human behavior. For instance, people will readily suffer a personal loss to punish a rival (Fehr & Schmidt, 1999; Glaeser, 2002). An alternative explanation is that influential individuals help group members understand how it is in their self-interest to join together. They help others see what is fair, facilitate communication, clarify roles, resolve disputes, and provide a model by demonstrating commitment to the group. Accordingly, these individuals earn the respect of other group members who trust them and are willing to follow their lead. Over time, the primacy of the group becomes a cultural expectation. These are precisely the kinds of roles played by head men, leaders, in modern hunter-gather tribes (Boehm, 1999; Nicholson, 2005).

Thus, an evolutionary view defines leadership as a functional resource for group survival: leadership is a solution to the adaptive problem of collective effort. More precisely, leadership is a process of social influence that persuades selfish individuals to set aside, for some time, their purely self-interested goals and cooperate with others in the pursuit of common goals. These goals are not arbitrary; they are responses to environmental conditions—chief among them is survival and competition with rival groups (see Hogan et al., 1994; Hogan & Kaiser, 2005).

This view of leadership is consistent with the common themes in the definitions provided by some of the most influential theorists in the field (cf. Avolio, Sosik, Jung, & Berson, 2003; Bass, 1990; Hogan et al., 1994; House & Aditya, 1997; Yukl, 1998). The common elements are "social influence" and "group goals" (Northouse, 2004). But the explicit idea of persuading selfish individuals to contribute to the group is not so common. Nor is the emphasis on competition with rival groups. And this is a contribution of an evolutionary approach: after all, leadership at General Motors can scarcely be evaluated without considering its performance relative to Toyota. One important implication of this concerns how we define leadership *effectiveness*. From an evolutionary perspective, leadership is about group survival; it follows that leadership effectiveness should be evaluated in terms of *relative* group performance. However, a recent review suggested that fewer than 15 percent of leadership studies use group performance as the criterion of effectiveness (Kaiser & Hogan, 2006). And hardly any of these studies consider performance *relative to the competition*.

Another advantage of an evolutionary definition is a matter of emphasis. Leadership studies tend to be "leader-centric"—the role of followers and the fate of the collective are rarely considered, much less given primary emphasis (Hollander & Offerman, 1990; Kaiser & Hogan, 2006). This renders leadership research irrelevant to real-world application in such problems as which retirees will receive their pensions or be left holding the bag, which organizations succeed or fail, and which national economies prosper or collapse. The emphasis on leaders also tends to glorify and romanticize corporate executives (Kellerman, 2004), perhaps even fanning the flames of the culture of entitlement that has promoted outrageous compensation packages and the recent rash of corporate scandal committed by the familiar cast of corrupt American CEOs (Mintzberg, Simons, & Basu, 2002). An evolutionary perspective emphasizes that genuine leadership is about the led, not the leader (Hogan & Kaiser, 2005; Nicholson, 2001; Van Vugt, in press).

Integration

Fragmentation is an enormous problem in the leadership literature (Hogan & Kaiser, 2005). What is needed is an overarching theory with guiding principles at multiple levels of analysis to organize empirical generalizations in a coherent framework. Chemers (1997) has attempted this by suggesting that the dominant traditions—"one best way" models like trait theory or the behavioral paradigm, contingency theories, relational models, implicit leadership theory, etc.—emphasize a different stage in the leadership process. Perhaps an evolutionary approach can take this a bit further. For instance, not even Chemers' otherwise comprehensive model makes place for the fact that tall, physically fit men often emerge as leaders (Ilies, Gerhardt, & Le, 2004; Judge & Cable, 2004). In the modern political climate, it is taboo to even raise the subject. However, with its interest in survival in hostile ancestral conditions, EP does offer clues about why we often defer to healthy, testosterone-driven, and physically imposing leaders.

EP is a good candidate for integrating the diverse and sometimes contradictory empirical generalizations from leadership research. As noted earlier, evolutionary theory is the most comprehensive account of the living world and has solved the integration riddle in the biological sciences. There are at least three reasons to explore EP as an integrative framework for leadership.

First, it leads to a clearer definition of the subject (see above). Further, this definition appears to subsume the key elements of existing definitions and also specifies some novel elements (e.g., the problem of selfishness, group performance vis-à-vis the competition). These

new features help to clear up some confusion. For instance, it is evident in an evolutionary view that leadership emergence and leadership effectiveness are not the same thing, even though they are commonly muddled in leadership research (see Lord, DeVader, Alliger, 1986). Leadership *emergence* concerns how individuals achieve status and influence within their group; leadership *effectiveness* concerns within-group functioning vis-à-vis between-group performance (Kaiser & Hogan, 2006).

Second, an evolutionary approach may resolve apparent contradictions in the literature. Consider the opposing orientations of the "one best way" approaches, such as trait theory or the behavioral paradigm, versus the contingency or situational models that argue the effectiveness of different leadership styles depends on the circumstances (Fiedler, 1967). Evolutionary thinking is inherently ecological: environmental demands specify the type of problems confronting groups; they define the changing tasks of leadership. Adaptation is always considered relative to the local environment. This bodes well for including the wealth of research on contingency theory. At the same time, evolution takes a broad, historical view and emphasizes species-typical features. Ecological considerations model "interactions", while general, species-typical considerations concern "main effects," if you will.

Thus, rather than regarding the behavioral approach and contingency theory as mutually exclusive, an evolutionary approach suggests that there are characteristics of effective leaders that generalize across circumstances *as well as* situational variations in what is effective. Reconciling oppositions like these is no mean feat; few theoretical perspectives can accommodate both. For instance, two meta-analyses seem to point to conflicting conclusions. First, Judge, Piccolo, and Ilies (2004) studied the main effects of the twin pillars of the leader behavior paradigm, consideration and initiating structure, across more than 150 studies and concluded that each is moderately related to group performance (ρ's = .28 and .30, respectively). Second, Schriesheim et al. (1994) summarized the results of 147 studies testing Fiedler's (1967) contingency theory. They concluded that considerate leaders are more effective in moderately favorable conditions (poor relationships with followers and low task structure, but high position power) while structured leaders are more effective in highly favorable conditions (good relationships with followers, clear task structure, and high position power). Far from being contradictory, these meta-analytic studies make sense in terms of the concepts of ecological niche and species-typical features provided by evolutionary thinking: summing across situations provides the main effect, taking situations into account yields the interaction term.

Finally, an evolutionary approach offers progressively deeper levels of analysis for interpreting leadership phenomena. As Chemers (1997) has suggested, at least part of the fragmentation problem is solved by considering different aspects of the leadership process. The different causal levels of analysis afforded by evolutionary theory provide a complementary set of explanatory tools for integrating existing research. And this is best discussed along with the next topic, how evolution can help with the problem of explanation in leadership theory.

Explanation

Most leadership research is a descriptive exercise documenting empirical relationships. But what do these correlations explain? How does theory account for the observed relationships? Much of modern leadership theory is superficial; at best, it concerns proximate causes in the immediate environment. Consider the following two examples—first from a macro-perspective that wonders why the phenomenon of leadership exists in the first place, and second from a

micro-perspective, showing how evolutionary thinking provides a richer frame of reference for interpreting findings.

The first example is the bold suggestion that EP may provide a comprehensive causal account of leadership. Thinkers at least as early as Lucretius two millennia ago have noted that causal explanations extend back in time as one asks a series of "why" questions.[1] Van Vugt (2006) notes four distinct kinds of "why" questions concerning why people follow leaders (cf. Buss, 1995; Tinbergen, 1963). First, there are *proximate* causes, the immediate motivational factors in followers that dominate modern leadership theory. Next, are *ontogenetic* causes that consider factors in the developmental history of an individual follower that shapes her motivation and attitudes towards certain forms of leadership. *Phylogenetic* causes go further back to how our species is disposed toward leadership and certain kinds of preferred and aversive forms (Brown, 1991). And this derives from *ultimate/functional* causes which concern adaptive advantage: how does leadership and followership enhance survival and reproductive fitness? An answer to this question was proposed earlier in the section on definition by suggesting that leadership is the functional force that encourages selfish individuals to cooperate. Each level of analysis offers a unique perspective on the "why" question; when all four are answered satisfactorily, we have a deeper knowledge of what leadership is, how it functions, and why it is operating—or not—in present circumstances.

Of course, the ultimate/functional level of analysis is a huge intellectual question. Perhaps the point about explanation is better served by considering a more focused example of how evolutionary thinking provides grounds for interpreting research findings at a deeper level of understanding. Consider the finding that executives tend to be optimistic—what D. Campbell (2002a) calls "the hierarchy effect." D. Campbell noted from decades of conducting climate and culture surveys that a consistent pattern emerges: no matter what organization is surveyed at what location and at what time, executives rate positive attributes higher and negative attributes lower than do middle managers, supervisors, and the rank-and-file employees. While acknowledging that most people prefer to explain this phenomenon as higher salary, prestige, and autonomy promoting a rosier outlook, D. Campbell (2002a) argued for an alternative explanation. He suggested that optimism *causes* certain people to rise to the top. Of course, cross-sectional data cannot provide definitive support for either explanation. But an evolutionary perspective suggests that both are likely to be true, drawing on support for each at the proximate, ontogenic, phylogenetic, and even functional levels of analysis.

Physiological studies of dominance hierarchies in primates (phylogenetic) indicate that a change in social status *causally* affects neurotransmitters associated with affect, stress, and tissue health (e.g., Sapolsky, 2005; Sapolsky & Jay, 1989; Schaller, 1963). As organisms rise in rank within their groups (proximate), a rush of serotonin triggers brain circuitry that favors a more positive interpretation of environmental stimuli, enhances self-confidence, and decreases vascular resistance. Conversely, a loss of social rank instigates the release of cortisol which engenders a less hopeful outlook, diminishes self-confidence, and promotes tissue degeneration. Furthermore, these effects accumulate over time (ontogenetic). The functional role (ultimate) of this process appears to be establishing equilibrium and preventing chaos within the group: were

[1] Lucretius' (undated) rejection of Aristotle's philosophy of purposeful design, teleology, is succinctly captured by the lines, "Nothing in the body is made in order that we may use it. What happens to exist is the cause of its use," (*De Rerum Natura*, IV, p. 833; see also, pp. 822-56).

there no such effects, today's loser would be tomorrow's challenger and tomorrow's winner would face yet another challenger, *ad naseum*. This would destabilize any group, making it easy prey and vulnerable to the vagaries of ecological change (Bloom, 1997).

From the other side of the argument, there are individual differences in optimism and they are related to genetic factors (Loehlin, 1992). Coupled with the work of Barbara Fredrickson (2001; 1998), this suggests that optimistic individuals are born with an advantage in the competition for leadership positions. Frederickson has established a "broaden-and-build" theory which maintains that positive emotions are evolved psychological adaptations (phylogenetic) that increased the odds of survival and reproduction in our ancestors (ultimate/functional). Supported by much empirical research, the theory and data suggest that positive emotions widen an individual's array of thought and action which yields adaptive benefits that accrue over time (ontogenetic). Specifically, a broadened scope of attention and a wider behavioral repertoire builds enduring personal resources such as relationships, skills, and knowledge and these provide an advantage in competition for status (proximate). Positive individuals have wider social networks; are more skilled, knowledgeable, and creative; and are healthier, more resilient, and more adaptable—they even live longer (see Fredrickson & Losada, 2005). Small wonder that optimistic people are more likely to rise through the ranks to become senior leaders.

It is apparent in an evolutionary view that asking whether the situation makes executives optimistic or if it is optimism that helps people become executives is a false dichotomy. Both are true and the reasons provided by an evolutionary analysis provide a more complex, complete, and satisfying explanation why.

Leading us Out of the Past

Beyond addressing the recurring criticisms concerning definition, integration, and explanation, an evolutionary approach also holds promise for advancing the field of leadership more generally. In particular, thinking critically in terms of how modern humans came to be opens the door to reconsidering some limiting ideologies and stimulating new insights.

Challenging Old Assumptions

Concerning articles of faith, there are three dubious assumptions routinely made in modern leadership theory and practice. An evolutionary perspective casts a shadow of doubt on each. They concern the construct of self-actualization, who benefits from charisma, and limits on human malleability.

Self-actualization. Transformational leadership theory is the dominant paradigm in modern scholarship. It rests on humanistic theories of motivation, particularly Maslow's (1954) idea of self-actualization (Bass, 1985, pp. 14-16; Burns, 1979, pp. 66-73). The basic idea is that charismatic leaders inspire followers to be the best they can be—to "self-actualize." The problem is, after a half-century, there are no valid measures of the construct. Furthermore, self-actualization doesn't make much sense from an evolutionary point of view: satisfying Maslow's lower-level needs—physiological, safety, belongingness, and status—seems both necessary and sufficient for survival and reproduction in our ancestral environment. What fitness advantage comes from reaching a peace and comfort with being "who one really is"? Moreover, the concept smacks of teleology—that the prospect of actualization is pulling the individual into the future. The danger is that self-actualization, like communism, is based on a flawed conception of human

nature (Lawrence & Nohria, 2002). Encouraging essentially selfish individuals to fully express themselves is a recipe for disaster on the Savannah. A tribe of self-expressing hunter-gatherers would experience conflict, distress, and intragroup competition, which would make cooperation all the more difficult. Indeed, humility, self-denial, and sacrificing for the tribe are prominent cultural values of hunter-gatherer peoples (Boehm, 1999; Nicholson, 2005).

On the other hand, evolution does support the "lower order" drives—physiological, safety, belongingness, and status needs (Boehm, 1999; Lawrence & Nohria, 2002; Hogan, 1983). It may also support a "higher order" need for meaning and purpose—that is, learning, understanding, and coherence for individuals and a sense of identify and commonality of fate for groups (Lawrence & Nohria, 2002; Hogan, 1983). Next-generation leadership theories could move forward by explaining how leaders satisfy these ancient desires in their constituents: how do leaders provide material resources for survival, a feeling of safety and security, a community in which to belong and have opportunities to attain status, and a larger sense of meaning that provides clarity of identity and purpose to collective undertaking? This alternative view of human motivation helps to explain the influence of a Hitler as well as a Kennedy (Padilla, Hogan, & Kaiser, 2006) and avoids the conceptually empty trap of reaching conclusions like Hitler was not a leader (cf. Burns, 2003). Of course Hitler was a leader; he was a self-promoting and destructive leader who enjoyed fame and fortune before leading the German people to ruin. Sixty years later, the country continues to struggle politically, socially, and economically.

Dazzled by charisma. Closely related to the transformational paradigm is the notion of charismatic leadership—the idea that certain individuals match an idealized image including charm, originality, expressiveness, and bold, personal risk-taking that followers find inspiring (Bass, 1985; Conger, 1989; House, 1977). According to the prevailing view, charismatic theories saved the field from the doldrums of two-factor models emphasizing task-oriented and people-oriented styles of leading (Hunt, 1999). However, closer examination of the literature suggests that while charisma may help individual leaders get ahead, there is little reason to believe it facilitates group performance against the competition. The most persuasive evidence shows that while CEO charisma is related to career success and compensation, it is not related to organizational success (Tosi et al., 2004; Agle, Nagarajan, Srinivasan, & Sonnenfeld, 2006).

In a study of CEO charisma, compensation, and firm performance in a sample of Fortune 500 companies, Tosi et al. (2004) reported a significant correlation between leader charisma and level of pay but no relationship between leader charisma and firm performance. The authors concluded that charismatic CEOs are able to convince boards of directors and compensation committees that they can add disproportionate value to the organization. But the firm performance results suggest that this is rarely the case. Similarly, Agle et al. (2006) reported a prospective study of the relationship between CEO charisma and five distinct measures of corporate financial performance (e.g., stock price, sales growth, return on equity) in 128 firms with an average size of $6.5 Billion U.S. in assets. They found that the firm's past performance predicted its future performance, but CEO charisma did not add to this prediction.

In contrast, Collins (2001a) recently identified two key characteristics of CEOs whose firms outperform the competition. He and his staff analyzed the Fortune 1000 companies to identify those that had 15 years of performance below the average of their business sector followed by 15 years of sustained performance above the average. They found 11 companies that fit this profile. Then they sought what distinguished these 11 companies from their rivals and determined that a common feature was a new CEO took over and then the firm's performance improved.

Moreover, these 11 CEOs shared two characteristics (Collins, 2001b). First, they were modest and humble, as opposed to self-dramatizing and self-promoting. Second, they were steadfastly persistent in pursuit of the organizational agenda. These findings are in stark contrast to the academic literature and the business press of the 1990s, which promoted charisma and the cult of the celebrity CEO. However, the results are consistent with ethnographic studies of leadership. Head men in hunter-gatherer tribes are modest, self-effacing, and committed to the collective good (Boehm, 1999; Nicholson, 2005). Personal magnetism may be beneficial for the individual in competition for status, but it is of no value to the larger social group.

Limits on adaptability. Another questionable assumption in leadership is held with conviction in practice. It is the idea of near-infinite adaptability, that the human mind is a blank slate and, through culture and experience—like a training program or coaching—it can be shaped to any desired form (Cosmides & Tooby, 1997; Pinker, 2002). Given that biology imposes very real constraints on our species as well as individuals, it raises the possibility that, contrary to what the leadership industry may espouse, not everyone is capable of being or becoming an effective leader (Hogan, 2006; Hogan & Warrenfeltz, 2003; Nicholson, 2001). By challenging the assumption of unlimited adaptability and personal reinvention, an evolutionary perspective forces this issue.

There is an empirical case to be made on this point. Recent studies suggest that genetic factors account for roughly one-third of the variability in who becomes a leader and these effects are mediated through physical characteristics like height and constitution and psychological factors like personality and intelligence (Arvey; 2006; Ilies et al., 2004). This has policy implications, such as how to invest limited resources to increase the quality of organizational leadership. The smart money is to focus on individuals with greater potential. Moreover, potential can be identified through relatively inexpensive psychological assessments (Hogan & Warrenfeltz, 2003).

New Insights

Finally, an evolutionary perspective may promote advances in leadership by turning our focus away from the day-to-day, habitual view and redirecting attention to the novel. It provides a chance to discover what might have been overlooked.

As an example, consider the study of our closest relatives, the Great Apes (chimpanzees, bonobos, and gorillas). We share 96 percent of our DNA with chimpanzees (Lovgren, 2005). And we now know a lot about them. Perhaps the most interesting studies of chimpanzee behavior come from the Dutch psychologist and primatologist, Frans de Waal (1982; 1996). He has made several striking observations about their social life. For instance, take grooming behavior. Through hours of carefully coded observations, de Waal has determined that grooming is about far more than the removal of nits and gnats. Its function is bonding, communicating liking and allegiance; de Waal calls it "the social glue" of chimpanzee culture. Chimps that groom each other tend to take the same side when conflict arises in the troop. And when acquainted chimpanzees get into a tiff, the two are likely to sulk until one approaches the other, whimpering in a peaceful posture (palms up, shoulders shrugged, eyes sunk conciliatorily), and initiates the grooming ritual (de Waal, 1982). Grooming serves the function of relational maintenance.

This example provides two interesting implications for leaders of the *Homo sapiens* variety. First, rare is the leadership theory or competency model that includes alliance formation and

coalition building (a notable exception is D. Campbell, 2002b)—the grooming, if you will, of peers across organizational boundaries or the leaders of other organizations. Of course, with humans, we're not talking about picking nits and gnats. With people the function takes such forms as a pat on the back, sending a ham at Christmas, providing tickets to the theater, or sharing strategic information about a customer that the potential ally is courting. It's about sending signals that let others know you are looking out for them, that you are on their side, and that you have an interest in their fate. Ultimately, it is about building a bond by demonstrating that you care about the other person. But we rarely study this in our scholarship, assess for it in practice, or develop it in training.

Second, consider conflict management. We've known for decades about the importance of "group maintenance," as Bales (1950) called the role of managing intra-group conflict in his studies of leadership in small groups at Harvard. But what do we know about reconciliation behaviors among leaders—what they do after an altercation involving them? What do we know about the different strategies leaders use for repairing a damaged relationship—the ways they sooth, stroke, and groom their staff, colleagues, bosses, and customers after a conflict?

By observing the creatures we are most related to, we might see things about our nature that we don't seem to so readily see in the mirror. Evolutionary anthropologists call this the "claddistic model" (Boehm, 1999)—inferring the inherited dispositions, tendencies, and behavior patterns that constitute a species' nature by considering its closest phylogenetic relatives. What else might we learn about human nature and leading the human animal from our primate cousins?

Conclusion

Despite its controversial nature and the potential for distracting ideological debate, the point of this essay is that the advantages of an evolutionary approach to leadership outweigh its costs. Buss (1995) claimed that because it is a new field with far-reaching implications, early prospectors of evolutionary psychology are likely to discover great fortune. This applies to leadership scholars too. A Darwinian approach can help address the persistent challenges to the field, shed outmoded assumptions that lack empirical support, and point to original insights. And that is why I encourage an evolutionary view of leadership.

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