

Leadership in Organizations: An Evolutionary Perspective

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Abstract In this chapter we discuss the potential of evolution to serve as a framework for unifying our understanding of leadership. From this perspective we consider the ultimate origins and functions of leadership, the role of co-evolution, and methods for testing evolution-based leadership hypotheses. To begin, we examine evolutionarily stable situation dynamics in the environment (e.g., intergroup conflict) that may have selected for (1) leadership behavior as well as (2) corresponding human traits intended to signal potential leadership ability and use this argument to support the notion of context-specific “cognitive leadership prototypes”. Particular attention is also given to the role of the follower and the specific pressures encouraging “followership investment”. In addition, co-evolution logic is used to examine the intricate relationship between the environment, human culture, and the emergence of certain leadership styles. Next, we discuss five methods for testing an evolution-based hypothesis of leadership and followership. Finally, we highlight practical implications which include appreciating the role of the follower, the impact of social constructs on modern leadership, the benefits of distributed leadership, and the importance of feminine leadership styles. Also, for consideration throughout the chapter, organizational examples are provided such as the homogenization of corporate culture and the current role of monarchies in Western society.

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Leadership is a universal phenomenon – it seems to be visible in all cultures and at all known historical periods, though taking quite different forms across times and places (Brown 1991). It is also one of the great obsessions of our times. Political leadership remains an area of keen public focus, on which the hopes and fears are pinned of many societies and groups. In business, leadership remains the hottest of topics. A brief perusal of business bookshelves will quickly reveal that more volumes appear with the word “leadership” in the title than any other domain of management. It is big business in education and consulting where corporations devote large budgets to new and better ways of finding, developing, and retaining leadership talent.

It is curious that little attention is given to fundamental questions, such as what is leadership? Is it a trait or ability, a position in a social system, or process of influence that takes place in groups? Arguably it is all three, but failure to make such distinctions is a possible reason for the unending stream of books on the subject and the lack of a unifying perspective on the topic (cf. Nicholson 2005a, b; Van Vugt et al. 2008a). This chapter takes a fresh look at the topic and aims to lay the platform for a more unifying perspective by considering the evolutionary origins and functions of leadership, how a co-evolutionary framework explains its different manifestations, and how to test evolutionary hypotheses of leadership.

1 The Evolutionary Origins of Leadership

A neo-Darwinian perspective commences by considering the fitness enhancing properties of leadership capability before considering its likely ontogeny and subsequent adaptation over time. The answer to the first question lies in the social nature of our species and the need for coordination to achieve essential fitness-enhancing goals. Social coordination can be achieved in many ways, but one of the most efficient is for an individual to perform the role of leader and for others to be followers. Leadership coordination can have different manifestations, or styles, from despotic to democratic leadership and anything in between. We shall discuss these manifestations later in this chapter. Our first goal is to consider the logic of leadership emergence.

Which evolutionary pressure(s) selected for our ability to coordinate via leadership and followership and what corresponding phenotypic and genotypic changes occurred in human evolution? Previous research on this topic suggests selection pressures associated with a nomadic hunting and gathering lifestyle – the way ancestral hominids have lived for at least several millions of years, and our own species, homo sapiens, for around 240,000 years until the advent of agriculture more than 10,000 years ago (Van Vugt et al. 2008b). Adaptations for leadership and

importantly followership may have laid the foundations for the increase in the scale and social complexity of human societies across history and this development in turn affected the manifestation of leadership. Our view is that humans evolved in environments that were characterized by natural oscillations in the availability of reproductively relevant resources as well as changing climates and geographies, which created selection pressures on forming highly effective groups to solve various coordination problems.

The main idea is that these coordination problems should center on the basic needs for genetic replication (i.e., resource attainment and creating environments conducive to rearing offspring) and exert a sufficiently consistent and recurring selection pressure. We consider four behavioral dynamics to be essential for human survival and reproductive success: (1) resource attainment, (2) group movement, (3) internal peacekeeping, and (4) intergroup relations. As we shall discuss, these problems arise and induce pressures for leadership emergence when there is an asymmetry of available resources and reproductively favorable environments.

First, vital to our survival is the attainment of sufficient levels of caloric intake and hydration (i.e., food and water), and establishing shelter with access to these necessities. Living in groups is a strategy that humans, pre-humans, and other species have evolved for this purpose. We argue that this fundamental requirement has shaped human group psychology. Yet the benefits that come with numbers also yield a cost in the form of coordination problems, three of which are described below.

The second recurrent environmental problem is group movement. Whereas resource attainment is a matter of maximizing opportunity *within* a particular environment, group movement concerns the transition *between* viable habitats. For the majority of human history groups have needed to be nomadic or at least semi-nomadic to follow changing patterns of migrating prey, vegetation, and sources of water (Diamond 1997). For example, during particular times of the year (e.g., dry seasons) waterholes can dry-up necessitating transition to less arid conditions.

Third is the need for cooperation. This introduces a controversial topic in evolutionary theory – group selection. It has been theoretical orthodoxy that selection (natural and sexual) is driven by the survival and reproduction of the biological replicators that define our phenotypic identity – the gene (Dawkins 1976). Yet selection does not operate on the genotype but on the phenotype and recently there have been persuasive arguments for what is called “group selection”, the idea that the group context creates a framework for the selection of those phenotypes that are congruent with the needs of the group, i.e. members of a collective prosper because of their relationship to the existing configuration of attributes, which collectively enable the group to master its environment (Sober and Wilson 1998; Wilson et al. 2008). Given the conflict between self-interest and self-sacrifice for the group, there are continual threats to cohesion in the form of free riding and other rule violations that threaten harmony within the group (De Cremer and Van Vugt 2002; O’Gorman et al. 2008). Subsequently, there is a need for internal peacekeeping and we suggest this selected for specific attributes to create and maintain a stable social environment and cohesive social group. Later we shall argue that the forces for selection include a group’s culture – a process that is identified as “co-evolution”.

Fourth, is a concern for the management of intergroup relations, since humans have existed for most of their history in extended clan formations, in which the kinship ties between subgroups may be quite weak. This requires the regulation of interrelations among the sub-groups of large aggregations, as well as periodic interactions with true out-groups of strangers. These interactions can either be hostile or peaceful. Inter-group raiding and trading were the common forms of such exchanges (Van Vugt 2009; Wrangham and Peterson 1996). Thus there is a need to mobilize for warfare, and for the politics and diplomacy of coalition formation and peacekeeping. These needs also have shaped how we organize and which attributes are favored among members to successfully prosecute and support the strategic goals of the group.

In this chapter, we develop the idea that these coordination problems have unique requirements and that they selected for mechanisms to coordinate group life such as a set of mechanisms that made it possible for individuals to form leadership-follower relations.

The increased importance of the social group as a buffer against environmental fluctuations (e.g., sharing food during shortages) selected for social adaptations to reap the benefits and avoid the costs of group living. The major outcome of this evolutionary trajectory was the expansion of the neocortex, dubbed as the social brain hypothesis (Dunbar 1998). One of the core pressures behind the expansion of the social brain may be group size increases and the associated problems of social coordination. Groups that successfully work together and suppress internal conflict increase the overall fitness of its members (Wilson et al. 2008). As fitness increases populations grow and there will be selection on traits to manage larger social networks more effectively. Those individuals, and consequently groups, maintaining larger and more integrated networks are likely to have greater access to scarce resources through opportunities for sharing and success in conflicts between groups. Given the positive correlation between group size and neocortex size across primate species (Dunbar 2004), the need to coordinate group efforts in oscillating environments selected for the increased mental capacity which made leadership and followership possible on a much larger scale than ever before.

It is important to note that leadership, as an element in the systemic social solution to these challenges, is not a unique feature of human evolution (Van Vugt and Kurzban 2007). Ants, bees, birds, lions, and other social species show basic patterns of leadership and followership to solve coordination problems. In some of the most primitive cases, such as the waggle dance of bee scouts to recruit followers, the behavior is likely an evolutionary elaboration of the same mechanism that makes it possible for an army of soldiers to follow the orders of a single general. Comparative studies of other social mammals, such as chimpanzees, wolves, and elephants, indicate that leadership has varying functions in different species (Van Vugt 2006). Dominance hierarchies, politics, and coordination via power, coalition, and exchange have been reliably recorded among other primates, especially the Great Apes (De Waal 1989a, b; Silk 2007). However, humans have evolved characteristics for adaptation to a wide range of environments and living conditions, and thus require behavioral plasticity, i.e. a greater array of social

responses and flexible strategies. The emergence of language in humans greatly enhanced the opportunity to lead large groups. Other communication systems (such as pheromones in social insects) might be just as reliable and effective however.

2 Leadership Emergence

To unravel dynamics of leader emergence requires us to examine three essential elements of leadership: Situation, Processes, and Qualities – the SPQ Model (Nicholson 2010). The adaptive challenge of leadership originates from the demands of what we can call leadership “situations” (the S factors). Any situation that could benefit from coordination by an agent is potentially a leadership situation. In modern organizational life these are identified as nodes or statuses in a hierarchy, though ostensibly egalitarian contexts are also potential leadership situations. Thus in a wide array of situations there is potentially a manifest benefit from leadership “processes” (the P factors). A leadership process is any behavior that directs and coordinates group effort. Even in a rigid hierarchy where behavior is coordinated by rules and operating procedures there is still a need for leadership processes to manage exceptions and to direct the application of systemic processes. Leadership processes thus embrace a variety of behaviors from the directive to the consensus-seeking. This makes influence in all its forms primarily a leadership process (Hollander 1978), including all the behaviors that are preparatory to influence or the exercise of power. The model thus implies that a prior need, and key leadership skill, is the ability to understand the current demands facing the group and to anticipate and imagine future situations. Thus leadership processes potentially embrace all human behaviors that can serve the goal of direction and achieving coordination. The key task therefore is to identify which critical situations require leadership and to determine whether there are individuals capable of performing these behaviors.

This brings us to leadership “qualities” (the Q factors). The model accords a central role to stable individual differences in leadership emergence, effectiveness, and derailment (Judge et al. 2002; Lord and Hall 1992). It is evident that human individuals are not all equally capable of enacting leadership processes as a function of differences in cognitive capabilities (perception and understanding), action capabilities (physical attributes and skills), and motivational capabilities (drives and interests). The science of behavior genetics tells us that many of these qualities have a substantial heritable component and achieve stability as traits by early adulthood (Arvey et al. 2006; Johnson et al. 1998). Evolutionary theory is interested in why such individual variations should arise.

Frequency dependent selection operates on many attributes, including psychological traits (Nettle 2006). This is the idea that there is comparative advantage in having a profile of attributes that differentiates us from other individuals in achieving reproductive success. A simple example would be the idea that in a world full of “followers” a minority who are capable of leading will secure benefits from performing that role, and conversely, in a world full of “leaders” there will be

rewards for those who are happy to be “followers”. This logic extends to the widest range of human attributes, resulting in the array of human types that can be found in every community. There is evidence that the more social a species is, the more differentiation there is in terms of personality (Penke et al. 2007). In humans the extreme variety of human personality types affords two key opportunities.

One is mate selection. At a psychological level human attribute diversity offers the chance for bonding on the basis of mutual gratification of needs (Buss 2003) and at a biological level the union of optimally differentiated immune systems, giving their offspring better life chances in the face of evolving pathogens (Williams 1975). The second is a comparative advantage in the social economy of the human group, with the possibility for the individual to bring a unique profile of skills and orientations to the service of the group (division of labor). Within the latter context leadership can be seen as a social role that is needed, along with many others, by the group, though, as we have observed, the nature of the desired leadership profile will vary according to the structure, culture, and challenges facing the group: what we have called the leadership situation. Thus we reason that the forces of selection result in the occurrence of human types who are more suited to leadership roles than others (Van Vugt 2006).

In terms of followership, if leadership is crucial to the survival of human groups we would expect humans to have evolved a suite of cognitive adaptations to recognize a leadership situation and identify an appropriate potential leader (i.e., those who followed bad leaders would have died out), and because what constitutes good leadership might vary from one situation to the next this mechanism probably consists of a set of heuristics or “if-then” rules. For instance, *if* the group is at war with another group *then* individuals would follow a leader with different characteristics and abilities than if the group is brokering peace.

As Buss (1991) argues, individual differences exist in part to maximize opportunities for cooperation. For example, leadership situations can favor prototypes not only between the sexes (i.e., men for war and women for peace – Van Vugt and Spisak 2008), but also within (e.g., *masculine* men for conflict and *feminine* men for peace). In fact, unpublished research by Spisak and Van Vugt highlights other forms of novel leadership emergence to challenge traditional male-female views (e.g., *masculine women* preferred over *feminine men* as leaders during intergroup conflict). This research will be discussed in more detail in the “Testing Evolutionary Hypothesis about Leadership” section of this chapter

Specific traits aside, the repetitive dynamics of these problems over time would have selected for a set of cognitive leadership prototypes that individuals with particular features would match better than others. A “cognitive leadership prototype” can be thought of as a set of traits and characteristics that reliably predict leadership ability in specific situations and these evolved prototypes are likely to be activated automatically and spontaneously when such situations arise (cf. leader categorization theory; Lord and Maher 1991). This is analogous to competitive sports. The requirements to be a successful horse jockey are quite different relative to that of a master Sumo wrestler and they come with a different set of physical and perhaps psychological traits and it would not be difficult to assess those individuals best suited for either role.

The key to understanding leadership prototypes is identifying critical leadership situations that have been recurrent and stable enough to exert sufficient selective pressure for cognitive leader prototypes to have evolved. As we have already mentioned, these demands can include resource attainment, group movement, internal peacekeeping, and intergroup relations. Within each of these challenges are tasks that must be accomplished to effectively address the problem and we believe that leadership may have served such functions.

In hunter gatherer communities four tasks may be identified that are essential for the adaptive capability and survival of the group and these correspond nicely to the coordination problems that we have discussed earlier (Nicholson 2005a; Van Vugt 2006): (1) Food-sharing allocations, which equates to the essential task of governance (resources maintenance); (2) Decisions about where to camp and hunt; what could be called the strategic challenge (group movement); (3) The control of aggressive males; which is in effect a challenge of culture management (peacekeeping); (4) Relations with other groups and communities (intergroup relations). These functions are, to a degree, interdependent around what Drath et al. (2008) identify as the components of leadership effectiveness – DAC – direction, acceptance, and commitment. The four functions we have identified require respectively the qualities associated with vision and planning; justice and integrity; emotional intelligence; and tact and diplomacy. Furthermore, there is no need for all these leadership processes to be possessed by a single individual so long as they are embodied in some social processes within the group.

There are other universals for emergent leadership in ostensibly egalitarian contexts, such as those that generally characterize hunter-gatherer communities (Boehm 1999), which correspond neatly to the results of the cross-cultural studies into desirable and undesirable leadership traits, notably around ethics and integrity, interpersonal skills, and the ability to mobilize positive emotions (Dorfman et al. 2004). These embody the processes by which leaders are accepted as trustworthy, dependable, and competent in finding the solutions to recurring group tasks.

Finally, a prototype for many leadership models is parenting. Every child has experienced one or more examples of adult leadership in familial contexts. Many of these find expression in solely adult decision-making contexts, especially perhaps in family firms where familiar pathologies of parenting are visible (Gordon and Nicholson 2008). But in many other contexts one can observe parental paradigms being replicated – from nurturing and caring to despotism (Kets de Vries 1997). It seems likely that as adults we may retain sensitivity and responsiveness to these paradigmatic forms.

3 Leadership Prototypes

Are there reliable trait differences between individuals that increase their propensity to emerge as leaders in different adaptive situations? For instance, let us consider the ancient and recurrent problem of conflictual intergroup relations

(Keeley 1996; Johnson and Van Vugt 2009). In times of fighting a strong, physically formidable, and aggressive individual would be preferred as leader. Conversely, if the situation requires peacekeeping, the same aggressive behaviors will be a hindrance, and the ability to cooperate, empathize, and communicate will become favored leadership traits. An evolutionary analysis enables us to examine the connection between leadership situations and evolved leadership prototypes by formulating and testing hypotheses about the content of these prototypes.

Research on the 2004 presidential elections between George W. Bush and John Kerry illustrates the point (Little et al. 2007). Researchers took facial images of Bush and Kerry and using face morphing software applied 30% of their facial features to a neutral base face. This process provided them with two images, a “Bush-like” face and a “Kerry-like” face. The important point is that both images contained features of the respective candidates, but only using only 30% of their respective facial features ensured that the composite images were not recognizable as Bush or Kerry, thus eliminating real world voter bias. Next, in the experimental phase, participants were asked to choose between the “Bush-like” and “Kerry-like” face in times of war and peace. Overwhelmingly the “Bush-like” face was voted for in times of war whereas in times of peace the “Kerry-like” face was preferred. Moreover, the “Bush-like” face was rated more masculine and the “Kerry-like” face more feminine.

Saad (2003) points out voters tend to use information shortcuts, such as visual cues, to simplify the rationally complex process of leadership selection. He argues height can serve as a cue for dominance and provides compelling evidence from past U.S. presidential elections. From 1904–1996 the winning candidate has 83% of the time been taller than his rival! Given the United States emphasis on defense it may prompt a prevailing environmental perception of intergroup conflict which elicits the preference for a dominant literally overbearing leader. Consequently, voters may use height as a heuristic for leadership potential in particular situations.

This suggests that followers use physical cues to make judgments on an individual’s leadership ability based on the match between the leadership situation (war, peace) and the leadership prototype (aggressive, cooperative), with height and facial masculinity-femininity (in this case) serving as cues. Indeed positive correlations have been observed between facial masculinity and levels of testosterone and between testosterone and aggressive and dominant behaviors (Penton-Voak and Chen 2004; Sellers et al. 2007), suggesting the validity of such cues. In addition, this accords with the SPQ (Situations, Processes Qualities) model, introduced earlier, which argues that relatively invariant yet diverse qualities of individuals (would-be leaders) are the subject of selection by agents (followers, parties, other leaders) in response to different leadership situations in order that these individuals may enact influence processes.

We argue that contemporary leadership is a product of human genetic evolution whereby individuals attend to information that is reliably connected with leadership success in the past. The argument is that those individuals and groups who would pick the right leader for a particular situation – for instance, a masculine-looking leader in war time – would fare better than those picking the wrong leader – a feminine-looking

leader during war. Over time this would have led to the formation of a set of distinct cognitive leadership prototypes to cope with different situations and those individuals that would match these prototypes would be more likely to attract followers (e.g., if at war, follow a physically formidable leader).

However, leadership situations are also the subject of socio-cultural development. Co-evolutionary processes maintain group-beneficial equilibria by supporting the emergence of new arrays of prototypes (Henrich 2004; Richerson and Boyd 2005). One possibility is that the leader prototypes that are reminiscent of our ancestral past may be no longer predictive of leadership success in modern society – the idea of a potential “mismatch” (Van Vugt et al. 2008). Given that these prototypes were shaped over several millions of years of living in small egalitarian groups, which are quite unlike modern nations and businesses, one could argue that these prototypes may no longer predict leadership ability and success in complex modern environments. Some instances of leadership derailment are arguably disequilibria of misfitting prototypes (Van Velsor and Leslie 1995). Yet another possibility is that co-evolutionary processes have led to the emergence of new effective prototypes (Richerson and Boyd 2005). The expansion of human groups and the ability of individuals to lead groups containing millions of followers suggest that both prototypes and selection processes are delivering the leaders we need.

Another implication is that aspiring leaders can influence their success by changing the perception of the leadership situation so that they better match the prototype. For example, the interests of a masculine looking leader candidate would be best served if he (a) perceives the environment as containing threat of intergroup hostility, and (b) can persuade others of the reality of this threat. One is reminded of George Bush’s campaign in the 2004 US election in which he constantly reminded the American people of the threat of Al Qaeda and with success – he beat Kerry with a comfortable margin. The relationship between leader situations and perceived qualities is not one of mechanistic and passive accidents of fit and misfit – leaders actively seek to promote and sustain situations that favor their styles (Nicholson 2010).

4 A Short Co-Evolutionary History of Leadership

Human culture has followed a co-evolutionary course. Cultural innovations such as the control of fire and the cooking of food led to bodily adaptations of a smaller and more efficient gut in hominids, which in turn facilitated increased ability to trek and hunt (Wrangham 2009). Human social and cultural change has followed a similar pattern with possible implications for leadership. Moving from a hunter-gatherer to an agrarian life style brought about a dramatic change in the fundamentals of human social organization. Not only did it lead to genetic changes in human constitution to allow some groups of modern humans to absorb lactated milk (though many still cannot), and a range of new challenges in the form of pathogens that jump the

barrier between domesticated animals and humans, but it changed our relationship to each other (Diamond 1997).

Formerly, the hunter-gatherer lifestyle of our ancestors enforced a loose egalitarianism and leadership roles were distributed among the group (Van Vugt et al. 2008; Whiten 1999). Emergent leaders were mostly transient for populations constantly on the move and they had little if any non-perishable wealth (Coon 1979). The agricultural revolution of some ten millennia ago produced a profound change in every aspect of human culture and society, allowing not only the accumulation of wealth and power but also its transfer between generations. This creates a compelling Darwinian logic for the acquisition and retention of leadership, including across generations because it translates directly into reproductive success (Betzig 1993). Leadership in the world of fixed settlements and centers of power, following the agricultural revolution, allowed the emergence of varieties of despotism. Absolutism was only leavened by the countervailing powers of competing warlords and subsequently, with the education and empowerment of the masses, by the people and their representatives (Van Vugt et al., 2008).

It is interesting to view, as an aside, the model that lies in between the hunter-gatherers and the agrarians: The pastoralists with their semi-nomadic lifestyle. The adaptive model of leadership one finds here is simultaneously more structured and collectivist than either of the others (Hodgson 2001; Saitoti 1986). In these societies one finds again the isomorphism between leadership models and the structure and culture of the collective; the co-evolutionary logic that favors the advancement of individuals who are skilled in the art of intermediation across the rigid boundaries of the social structure. This works for pastoralists because of their rigid age-grade structure and intense collectivism or anti-individualism within age sets (Nicholson 2005a).

In many early tribal societies, leadership follows the so-called Big Man model (Nicholson 2005a; Van Vugt and Ahuja 2010). This concept originated in the ascendance of leaders able to secure the most resources for the tribe (e.g., the best hunters and fishers) and who proved their fitness to lead by their judicious and selfless sharing of surpluses with tribal members (Coon 1979; Kets de Vries 1999). This prototype survives in Africa and elsewhere, where it has become synonymous with a corrupted form of governance where the concentration of power in a one-party state allows its rulers to act out a kleptocratic parody of the Big Man model. The co-evolutionary equilibrium here consists of historical faith in the patronage model of the clan, with a tradition of dependence on the largesse of chieftains, even though it is economically self-defeating.

The co-evolutionary argument that explains these historical shifts owes greatly to human adaptability. The nature of the environmental challenge such as a mobile versus sedentary lifestyle or external threat versus cooperation evokes appropriate social institutions that recalibrate the values attached to individual attributes (e.g., favoring warriors versus peacemakers as leaders). Various forms of selection (natural, social, or sexual selection) then conspicuously favor the prosperity of some leadership prototypes over others. Other systems (e.g., education, culture) may subsequently weigh in to reinforce the bias, which may result in selection at the

cultural and perhaps even at the genetic level, such as the claimed differences in leadership style and temperament between northern and southern climes (Hofstede 1982; Kagan 1994).

The co-evolutionary logic applies more locally in sub-cultures, which is what we may regard many organizations as; especially those that have been around long enough to have acquired the attributes that help to keep culture in place: Life-time members, traditions, legends, rituals, selection and de-selection mechanisms, established operating norms and procedures (Pettigrew 1979). There is a long tradition of research on Schneider's ASA "the people make the place" model (Smith 2008), which argues that organizational subcultures homogenize over time by what has been called "elective affinity" (Nicholson 2000). People, including leaders, are attracted to and self-select into organizations that already contain like-minded individuals who have previously elected to join and stay, misfits having deselected themselves. A corollary of this logic is the somewhat paradoxical idea that the freer labor markets become the less diversity there will be in organizations. Indeed, the search for external rather than internal leaders is often a reflection of their desire to drive change from the top.

Of course this is only part of the picture since the co-evolutionary argument also points out the need for communities to be adaptive to their external environment, and excessive homogenization will lead to a loss of adaptability, or "nest fouling" (Astley 1985). For this reason there is often a struggle in established organizations between conservatism and change, the latter being driven by the thrusting nascent businesses who would capture their markets. These are driven by an entrepreneurial spirit, and, indeed, on the ASA principle are peopled with entrepreneurial personalities (Chell et al. 1991). This argument suggests that the continual call for "entrepreneurship" in large corporations is a somewhat futile whistling in the wind, and the best they can do is to acquire such upstarts and capture what they can of the spirit before it departs to more sympathetic environments (Fisher and Koch 2008).

Yet further complication is added by the fact that organizations, to a degree, choose their environments. The work of Pierce and White (1999, 2006) presents a significant argument in this regard, about the relationship between environmental dependence and the internal logic and culture of an organization. Reviewing a field experiment of macaque colonies, which showed that centralized food supplies generated hierarchical structures and "agonic" (competitive) relationships, while decentralized supply fostered egalitarian and cooperative systems, they argued that the same applied in organizations (Pierce and White 1999). A subsequent laboratory experiment with a human population confirmed the expectation (Pierce and White 2006).

The evolutionary implication is that organizational forms and structures are congruent with their environments, and that classic hierarchical structures are adapted to monolithic supply chains. One may deduce that the forces of globalization and dispersed supply chains presage the new and emerging organizational forms we can see around us: networked, modular, temporary, and cooperative (Lewin and Volberda 1999). Yet if organizations can choose their environments

it seems likely that members inured to a culture of a particular type will try to preserve it. The death of many organizations seems to follow this pattern – leaders whose vision stems more from their personal needs for certainty than adaptation to a changing world (Hogan et al. [in press](#)). It is such dialectics that drive the waves of revolution and consolidation of business cultures over time.

5 The Nature of Followership

In looking at the situational contingencies that have shaped the ontogeny of human leadership one stands above all others in importance – it is the people providing the social context for the emergence of leadership, the followers. The term followership is in danger of misrepresenting the dynamic of the relationship between the leader and the led, by connoting the former as the active agent and the latter as passive responders. The relationship may indeed take this form or indeed the opposite where leaders are the puppets of their followers. What matters is that followership is a surprisingly little understood or discussed aspect of leadership, with an evolutionary approach having much to say about it.

One of the first scholars in the past century to recognize the lack of research and importance of this topic was Mary Parker Follett (Gilbert and Hyde 1988). She provided the following observation of followership in a 1933 lecture at the Department of Business Administration of the London School of Economics, “. . . let me speak to you for a moment about something of the utmost importance, but which has been far too little considered, and that is the part of the followers in the leadership situation. Their part is not merely to follow, they have a very active role to play and that is to keep the leader in control of a situation” (Follett 1949, p. 41). Researchers continue to lament the lack of work surrounding followership and its origins (e.g., Bjugstad 2004; Brown 1995; Dixon and Westbrook 2003; Nolan and Harty 2001; Van Vugt and Kurzban 2007). Considering the overwhelming amount of time we spend in followership roles, research is needed to reach a deeper understanding of the motives, attributes, and interests of people who consent to being led.

Given that both leadership and followership can vary enormously in their manifestations, does followership have any defining feature? A starting point is to consider followership as a coordinated investment or commitment of time, resources, energy, and so on in a particular leader to achieve a particular goal. This can be termed “followership investment”. The act of supporting or submitting to leadership also involves some degree of risk and constraint as the person surrenders part of their autonomy. Likewise, it is implicitly an issue of motivation, and raises the question of what motivates people to invest in a leader.

It is proposed that the decision to invest will be based on an overall cost/benefit analysis which includes the follower’s perception of both the situation and the most desirable leader traits for that situation. From an evolutionary perspective, one answer that has been suggested is “that followership emerged in response to specific

ancestral problems that were best solved through collective effort coordinated by a leader-follower structure that enhanced individual and group survival” (Van Vugt et al. 2008a; p. 189). This is consistent with the concept that human social groups evolved to address matters of survival as a means of genetic replication. Moreover, it suggests that survival and reproductive success are primary motivators for following. Yet it is also true that followers often do worse than leaders in terms of proximate goals such as wealth (Switzer 1975) as well as reproductive success (Betzig 1986; Chagnon 1997) and because evolution operates on the basis of relative fitness an explanation is needed for why individuals would consent to being followers.

In all social species risk attends those who become separated from the group, so there is some inertial benefit to being a follower, as Darwin recognized in his book *Descent of Man* (p. 105): “With those animals which were benefited by living in close association, the individuals which took the greatest pleasure in society would best escape various dangers, while those that cared least for their comrades, and lived solitary, would perish in greater numbers”. In situations where leaders are appointed or hereditary, becoming a leader may be difficult and often the only choice open to followers is to accept their subordinate position or defect to join another group (Van Vugt et al. 2004) this will be based on the follower’s calculus of risks and benefits. One may also note that in social groups where leadership is emergent (rather than hereditary or by appointment), the role is typically contested, which also entails risks for leadership contenders. Losers can forfeit their position in a dominance hierarchy and even suffer more direct threats to their fitness, so acceptance of a subordinate status is for many a rational choice (Nicholson 2000). This pattern has been observed in other species such as Gelada monkeys where the loss of a leadership position results in fitness impairment, in some cases the forfeiture of the right to reproduce.

The establishment of dominance hierarchies is the outcome of multiple and serial calculations by group members of the costs, risks, and possible gains of striving for enhancement. In organizations the phenomenon of organizational “plateauing” is the result of two forces – individuals who have lost out in a tournament contest, and those who have elected to contest no further to avoid the risks (Nicholson 1993; Nicholson and De Waal 2005). Thus, attention should focus on how the follower perceives these possible payouts.

Human rational assessment and behavior is ultimately bounded by the availability of information in the environment and our cognitive limitation to analyze this data. Whether followers are selecting their leader or making a choice whether or not to defect from a led group, their decision has the character of bounded rationality (Gigerenzer and Selten 2002), and decisions (such as who to follow) depend greatly on perception driven heuristics (Simon 1957). Specifically, followership investment and collective action depends on how group members filter this information regarding the environment, the leader, fellow followers, and the utility of one behavior over another.

The primary assumption for followership to occur is that individuals are better off staying together than going alone (Van Vugt 2006). A simple game theory model

		Player 2	
		Waterhole A	Waterhole B
	Waterhole A	1,1	0,0
Player 1			
	Waterhole B	0,0	1,1

Fig. 1 Coordination game (Adopted from Van Vugt 2006)

shows that when coordination benefits exceed the benefits of “going alone”, following becomes the optimal choice (see Fig. 1). Suppose there is a dyadic relationship and both group members benefit equally by traveling together for protection to either waterhole A or B. Conversely, neither member gains the benefit of group security if they travel to separate waterholes. This creates an asymmetric value between individual or coordinated behavior, and ultimately favors coordination for resource attainment. That is, when player 1 makes a move then it is in the interest of player 2 to follow 1 wherever he or she decides to go, to either waterhole A or B.

One implication of this simple waterhole example is that activation of followership may only occur when there is a leadership situation and the leader’s intentions or qualities become sufficiently salient (i.e., player 1 displaying initiative and making the first move). At this basic level followership may have the character of herding behavior – following what other followers are doing on the basis of the “wisdom of crowds” rule (Surowiecki 2004). This is akin to Ridley’s (1994) account of mate choice among sage grouse. At the “lek”, males parade their fine feathers for females to choose those which are presumed to indicate good genes, with the result that typically only around 10% of the males father the next generation. However, it seems that females are not making fine discriminations between males, but imitating other females. Research on mate choice copying as a decision rule for humans finds a similar pattern (Waynforth 2007). Using a related heuristic, followers may often choose to follow leaders who have followers, rather than because of a rational analysis of a leader’s qualities.

Where there is a choice to follow or go it alone the motive that is often most relevant to following a leader is people’s need to belong (as in Darwin’s quote). As Baumeister and Leary (1995, p. 497) explain, “The need to belong is a powerful, fundamental, and extremely pervasive motivation”. People rally behind a leader because it adds to the cohesion of the group and cohesive groups are safer places to be. Leaders form a focal point for the coordination of groups. They do not have to do much to achieve this. The monarchs of many modern nations have the status of figureheads rather than active leaders yet by acting as the symbols of their nations they contribute to the cohesion and unity of their peoples. The better an individual

can fulfill people's belonging needs the more likely they are to attract followers. This is the notion of prototypical group leadership (Hogg 2001). An individual is more likely to emerge as leader if they match the prevailing group norms and values, for instance, when they hold an opinion that matches the majority of group members. From an evolutionary perspective, it is probably safer to follow someone who shares the dominant norms and values in the group because they are likely to promote cohesion and stability.

A second motive is understanding. Following a leader might be an effective strategy for understanding how the world works and for learning new things especially in unpredictable environments. For instance, for humans who inhabit a world that is changing and unpredictable, surrounded by such varied terrain as forests, tundra, and savannah, gathering food is not straightforward; food comes in many forms, each requiring its own gathering technique. If you are going to eat, and therefore to survive, it pays to be versatile and varied in the way you seek out dinner. And so it pays to learn.

One way of learning is through simple trial and error, which is potentially a very costly strategy. It is time-consuming and risky, since errors can be dangerous. It is preferable to acquire heuristics, strategies, skills, and causal reasoning that improves our understanding of how the world works. The more unpredictable environment the more important such learning is. And what better way to learn than from an individual with the expertise and experience to solve particular problems who then emerges as the leader. One of our first experiences with this sort of learning via leadership is often the inter-generational cultural transmission of parent-leader and child-follower. This innate ability to follow and learn is an important component of our theoretical understanding of the evolution of human leadership. A process for testing such ideas is a logical next step.

6 Testing Evolutionary Hypotheses about Leadership: The Male Warrior vs. Female Peacekeeper Hypothesis (MWFP)

It is important to consider how evolutionary hypotheses about leadership can be tested. Many evolutionary hypotheses emerge in the context of discovery but it is in the context of proof that they are supported or falsified. Evolutionary psychology has been accused of weaving together "just so" stories about human social behavior (Nicholson 2005b). Yet like any other psychology discipline evolutionary psychology generates testable hypotheses that can be supported or falsified through empirical research. To test evolutionary hypotheses about leadership requires one to build a nomological network of interconnected predictions and adopt a multi-methodology approach to test these in different leadership domains (Schmitt and Pilcher 2004). Here we give an example of such an evolutionary hypothesis, based on research two of the authors (Van Vugt and Spisak) conducted on leadership and gender differences. The main hypothesis, informed by an evolutionary approach, is that people

with masculine traits are more likely to emerge as leaders during intergroup conflict and people with feminine traits during intragroup conflict. We dub this the Male Warrior-Female Peacekeeper Hypothesis (MWFP-hypothesis).

One way to test this hypothesis is through designing a scenario study, for instance, about a mock presidential election (Van Vugt and Spisak 2008). In one scenario participants are told to imagine that their country is at war and in another that their country faces an internal conflict. Here are the scenarios we used in our study:

War scenario

Your country of Taminia is at war with the neighboring country of Robania. It has been an aggressive, costly, and competitive war with no side willing to concede. Recently, Robania has increased their forces and intensified their bombing raids. This has made everyone exceptionally concerned for their safety. You and your fellow citizens are determined to establish dominance over Robania in order to protect the lands, resources, and people of Taminia. Currently, your country is in the middle of a presidential election. Please select the leadership qualities you are most likely to vote for in a war-time situation, and rate your degree of preference.

Peace scenario

Your country of Taminia has fallen into an economic recession and the two major political parties are experiencing internal differences. As a result, the people are strongly divided on what course of action is necessary to restore Taminia. Recently, disagreements between rival party members have become hostile with small pockets of violence occurring throughout the country. This has caused a growing threat of civil war. However, the general consensus is to avoid internal fighting and resolve disputes without hostility. The citizens of Taminia prefer a wise strategy that includes compromise and cooperation. Currently, your country is in the middle of a presidential election. Please select the leadership qualities you are most likely to vote for to resolve internal conflicts peacefully, and rate your degree of preference.

In one study we simply asked them to indicate their preference for a male or female leader. As predicted in the war scenario there was a strong preference for a male candidate (91.1%) and in the peace scenario a female candidate received the majority of the votes (75.6%) – both differences were statistically significant (Van Vugt and Spisak 2008). This suggests that stereotypical traits of men as aggressive and women as cooperative are traits that followers use when making decisions on followership investment.

In the unpublished data mentioned earlier regarding gender differences we looked at variations in the degree of facial *masculinity versus femininity*. Both men and women vary in their masculinity/femininity and these differences are largely the product of the regulation of sex hormones testosterone and estrogen. Consequently, this suggests leadership opportunities and prototypes may be shaped more finely by biological differences in masculinity or femininity.

To test this we masculinized and feminized both male and female composite facial images which yielded four images types: (a) a masculine looking male, (b) a feminine looking male, (c) a masculine looking female, and (d) a feminine looking female (see Fig. 2). These facial types were then presented as forced-choice pairs (masculine-male vs. feminine-female, masculine-male vs. masculine-female, and

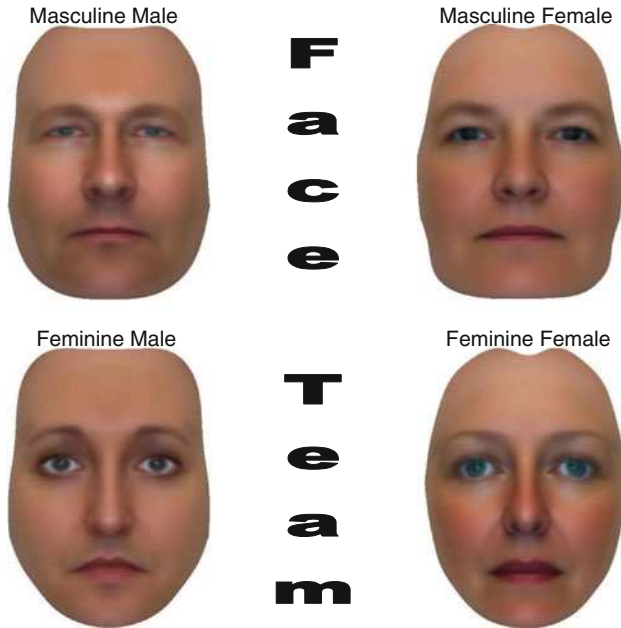


Fig. 2 Examples of masculinized and femininized face morphs to test evolutionary hypothesis about leadership: The Male Warrior-Female Peacekeeper Hypothesis

so on) with the scenarios cited above and participants were asked to vote for a face they preferred as a leader for each situation. As expected, masculine facial images were voted for more often during war and feminine facial images received the majority of votes during peace. On average masculine face types (both male and female) received 66% of the vote when paired with feminine faces for war and conversely feminine images won 63% of the time during peace.

Furthermore, it appears biological sex was not as strong a predictor of leadership emergence as was masculinity and femininity. For instance we found significant results showing that masculine-looking *female* images were preferred as leaders above feminine-looking *males* during wartime and *feminine-males* over *masculine-females* during peacetime. Also, in the conditions where the facial appearance of gender was constant for the paired faces and biological sex differed (e.g., masculine-male vs. masculine-female for war and feminine-male vs. feminine-female during peace) a probability of chance was observed. These findings offer a very novel approach for understanding the interaction between leadership and gender, and strengthen the need for evolution as a necessary theoretical framework to drive uniquely insightful hypothesis formation in the social sciences. These findings are also reminiscent of the US-presidential study conducted by Little et al. (2007) in which they morphed the Bush and Kerry faces and found that a masculine looking candidate (Bush) was preferred in a situation when the US was facing a war.

A third way to test evolutionary hypotheses about leadership is through economic game experiments. Research by Van Vugt and Spisak (2008) placed participants in groups of five to play a step-level public-goods game. The basic objective of this game is to reach a predetermined degree of collect investment from individual donations of group members. For this particular game each participant was given £3 and if the group investment reached a total of £12 (i.e., an average individual donation of 80%), every player received a £5 bonus in addition to the amount they kept in their private fund. However, if the level is not reached everyone loses their investment and merely keeps the amount remaining in their private fund. This creates an obvious dilemma for each player. Should they donate their funds to the group, trusting that the other members will act accordingly, or opt for a selfish strategy? Fundamentally, a public-goods game is a measure of cooperation, indicating how much individuals are prepared to sacrifice in order to help their group (Hardy and Van Vugt 2006).

Also, players in the Van Vugt and Spisak (2008) game were placed either in an intra- or intergroup conflict situation: One group of participants were told that the aim of the study was to “examine how well individual players are doing in group investment games and compare the results between individual players within each of the groups” (intragroup competition condition) and the second group was advised to “examine how well groups of players from different English universities are doing in these group investment games and compare the results between different universities” (intergroup competition condition). Respectively, the purpose of this manipulation was to make salient a dynamic of either cooperation within the group or the sense of competition between groups. As explained previously in this chapter, it is expected that followers experiencing diverse situation requirements for goal attainment will prefer different leadership traits. Hybrid and control conditions were also part of the design. In addition to manipulating the situation dynamics, teams were assigned either a fictitious male or female leader of the group. Participants were provided with a name and short biography of their fictitious leader. The primary goal of this study was to examine a change in the level of cooperation (i.e., financial investment) as the follower’s perceptions of the situation and leader were modified.

As expected, players contributed more to the group fund when (1) a male leader was assigned to intergroup competition and (2) a female leader was paired with the intragroup condition. This suggests that as the demands of the situation shift so do the prototypical preferences of the leader. Moreover, this relationship is in-line with our theoretical understanding of evolved leadership prototypes resulting from coordination problems routinely encountered in our environment. There are a variety of opportunities for further economic games experimentation on the MWFP-hypothesis. For example, does a feminine leader enhance cooperation between groups in an environment where conflict and cooperation are both potential outcomes? Likewise, will cooperation between groups turn into conflict with a masculine leader prototype? Also, will a group perform better or worse in these games when there is a leadership team rather than a single leader? Finally, what can

this tell us about application to increase organizational performance or reduce violence between groups?

A fourth way of testing the hypothesis would be to conduct an archival study in which we look at instances of masculine and feminine like leaders in the history of nations or businesses. For instance, this could be done by trait assessment from content analysis of speeches given by these leaders, and rating their photographs in terms of masculinity/femininity. We could then gather data about the situation surrounding the election of these individuals and mark them in terms of either a risk of external conflict or internal conflict. Support for the MWFP-hypothesis would be obtained if there is a higher incidence of male or masculine leaders during external threats and female or feminine leaders during situations in which groups are committed to peaceful relations (post-war settlements).

An initial attempt for such an analysis would be looking at companies that are both relatively old and large to provide a diverse and extensive amount of data and build a highly comprehensive model of organizational evolution. This data should contain personality information about former CEO's and managers and changes in environmental conditions (e.g., economic fluctuations) as well as the company's evolving leadership, culture, mission, and so on over a temporally and geographically sufficient scale. Certain older multinationals can meet these requirements, where their history of leadership reflects the historical impacts of war, depression, the rise of the American middle class, and so on. Many multinationals have also experienced massive expansion across the globe providing opportunities to observe leadership emergence and followership behavior cross-culturally. Such companies provide models to observe and predict changes in organizational leadership consistent with evolutionary hypotheses such as the MWFP-hypothesis.

Fifth, we could use the tools of game theory (Maynard-Smith 1982; Van Vugt et al. 2008) to model the emergence and effectiveness of masculine leaders during war time and feminine leaders during peace time. Using computer simulations we could introduce agents into a space where they interact with other agents. These agents either adopt an aggressive "masculine" strategy (e.g., they make unprovoked attacks against their neighbors) or a peaceful "feminine" strategy (e.g., they cooperate with their neighbors unless the neighbor attacks them and then they retaliate; cf. Tit-for-Tat). By varying aspects of the environment - for instance, is an individual player surrounded mostly by "masculine" or "feminine" players - we can then look at the success of each of these strategies and their increase (or decrease) over many generations. It is the underlying evolutionary strategies of aggression to gain resources (i.e., masculine) or peace to maintain stability for rearing offspring (i.e., feminine) that is of consideration.

Finally, we can use genetics studies to examine which genes are likely to be involved in the male warrior and female peacekeeper syndromes/proclivities. It has been asserted that the gene MAO-A plays a role in the onset of aggressiveness in males by affecting serotonin levels. It has been dubbed the male warrior gene in the popular literature. Males with one variant of this gene are indeed more likely to join youth gangs (Beaver et al. 2009) and make unprovoked attacks in war games (McDermott et al. 2008).

7 Some Conclusions and Implications

From the theory of evolution we glean deeper insight into the origins of leadership and followership in our species. This knowledge can ultimately help to design organizations that work with or around our evolved tendencies to select and follow leaders. We note four implications.

Gender and leadership. The potential of female senior leadership is often overlooked in corporations. Although male leadership is still the norm in most business organizations, reflecting our ancestral biases to select masculine leaders in competitive environments - an overabundance of male leaders in other organizational types such as NGOs which pursue more communal and cooperative not-for-profit bottom-lines is potentially limiting. However, even in competitive market driven organizations excessive masculine leadership can have negative consequences on the for-profit bottom-line.

The logic of co-evolution applies. Earlier we considered the drivers of congruence and incongruence within organizations – between leaders, members, and sub-cultures – and between organizations and their environments. Human agency, the ability to imagine and bring about future states, is arguably the quality that most distinguishes us from any other species. This drives co-evolution by enabling “purposive organization”. We noted from the work of Pierce and White (2006) that external forces may predispose organizations toward hierarchical agonistic vs. egalitarian cooperative forms. But we also argued that this may be a matter of choice – there is more than one way to organize to achieve organizational goals. Traditionally, business organizations have been dominated in management and leadership by men, and one can reason that there may be a bias towards electing for forms of organization that give maximum play to the needs of dominant males, dominance hierarchies, focused task allocation, and competitive striving. This suggests that competitive hierarchies, division of labor, and tournament promotion systems arise not so much because they uniquely fit the external environment, but because they are within the comfort zone of their primary agents, masculine-men (Nicholson 2000).

If the forces of globalization and social development are moving organizations in the direction of flatter structures, multitasking, and cooperation, then these are conditions that in the future will require more feminine approaches to leadership. But whether we see an increase in the frequency of female leadership will depend on how men of power will facilitate the evolution of structures towards one that render themselves as less valuable. Leaders currently in these top positions who are less willing to encourage feminine approaches at high levels will ultimately hinder their organizations viability in the global arena. For example recent research has found that testosterone is associated with financial risk-taking (Apicella et al. 2008), which in excess (as we have seen in the global credit crisis) can be harmful for organizations and some have claimed that with more women at the helm of international banks and businesses the economic depression could have been avoided. Increasing female senior leadership is therefore not just a matter of equality but also of common sense.

Corresponding to the dearth of female leadership at senior levels and unsustainable risk-taking is the tendency for masculine leaders to express an abundance of dominant traits. This behavior, though effective for asserting oneself into leadership roles, does not necessarily yield an optimal match between the leader and the situation. As research has shown, imposed dominant leadership can create negativity amongst those expected to follow (Van Vugt et al. 2004), which may also apply when a dominant leader is elected and the follower is not in a position to leave the group (e.g., for economic reasons). A possible solution is establishing mechanisms within the institution to control the proliferation of aggressive individuals – a common task in tribal societies that have predominated throughout our ancestral history (Nicholson 2005a). This may apply to the military, and to a lesser extent, corporations and other establishments that assume a hierarchal structure and/or that measure success through economic competition.

To make the MWFP-hypothesis tangible lets consider the explicit differences between Google and Enron. The so-called “Google Culture” emphasizes a relaxed, nurturing, and cooperative global environment while striving for a “small company feel” – a feminine culture. Their overwhelming success with this culture supports our argument for the advantages of feminine leadership styles in modern and highly connected environments. On the other hand in Enron’s leadership and culture, hierarchical and dominant leadership – which one sees predominantly in all male groups - mixed with an artificial environment of hyper-competiveness became a catalyst for the company’s infamous accountancy practices and terminal failure. In order for organizations with similar faults to avoid such catastrophic ends they should start by thoroughly digesting the remaining three implications.

The social construction of leadership. Much has been written about the romantic idealization of leadership (Keller 1999; Meindl et al. 1985), which had led to some writers arguing that contemporary forms, including the relative exclusion of women, are due to our suffusion in an ideological orthodoxy. We agree that the imagery of leadership is important, and often followers respond to more the ciphers of leadership, as represented in their PR, than in the reality of their imperfect characters. We also accept that leaders play up to the dominant imagery – akin to gorilla chest beating to demonstrate power – without it actually having to be put to the test. Yet, as in other primates, our displays have underlying utilities that can be tested. The world may be socially constructed through dialogue, contested meanings and imagery, but the meanings are not arbitrary; they are rooted in the underlying values of biological utilities. This is the familiar yet convoluted paths by which proximate goals draw their energy from distal goals (Barrett et al. 2002.), but the form they take follows the rules of translation set by the context.

Thus even in modern society we find tall leaders favored over shorter others, regardless that the distal utility from our ancestral past will never be realized (Judge and Cable 2004), that is, we will almost never have to depend upon our leaders’ physical attributes for any supposed benefits they may confer (cf. mismatch hypotheses; Van Vugt et al. 2008). Women are likewise undoubtedly disadvantaged by failing to measure up to the imagery of heroic leadership, though the disconnect between the distal and the proximate in contemporary settings is so complete that

this is hopefully a waning source of disadvantage to women's prospects. These, as we have argued, are more due to the uncondusive nature of the most senior leadership roles for women in most organizations.

Distributed leadership. Another implication of our contingent evolutionary analysis of leadership and organizational forms is the potential benefits of distributed leadership. In ancestral groups various individuals performed different leadership roles but in modern societies the tendency is to invest power in single individuals. However, there are many examples of co-leadership, and in many large and complex businesses, leaders have critical partnerships that underlie their success (e.g., between Chief Executives, Chairman, Finance Directors, and other significant power holders; Alvarez and Svejenova 2005; Heenan and Bennis 1999; Nicholson 2008; O'Toole et al. 2002). The SPQ logic (Situations, Processes, Qualities) introduced earlier, coupled with our co-evolutionary arguments, suggests that power sharing models should become more frequent as organizations' environments and structures become more complex and uncertain, and their strategies become more demanding. Thus we find organizations such as Google, McKinsey, and Bloomberg that operate with diverse and complex information, with varied and deep client needs, require strong yet fluid networks of internal collaboration and multi-local centers of power.

Understanding followership. A final implication of our evolutionary analysis is appreciating the role of followership. As we have mentioned in this chapter the leadership literature has paid little attention so far to the position and nature of followers (Van Vugt et al. 2008). Organizations that can understand the needs and desires of their followership base may be better equipped to manage their human capital and adjust to change. We propose taking an approach that incorporates our understanding of evolved human behavior to foster a deeper understanding of how followers engage with their organizations. With the exception of particular threats such as intra- or intergroup conflicts it may be best for leaders to leave individuals alone and let them do their jobs with relative autonomy (Van Vugt et al. 2008). Leader-follower dynamics evolved for the purpose of addressing specific group threats in our ancestral environment (Van Vugt et al. 2008) and outside these threats most employees simply wish to be left alone. Managers should recognize and avoid the tendency towards excessive leadership.

In summary, this chapter has offered a novel explanation for the much researched phenomenon of leadership and followership that incorporates a current understanding of human evolution. Given the various sources we have enlisted to develop our argument, it is clear that a complete understanding of leadership, and equally important, followership needs to take a multidisciplinary approach including all the behavioral sciences from psychology to biology. Future work will want to build upon this theoretical framework to clearly define a followership typology that considers our innate tendencies and how that interacts with modern environments. The theory of evolution can provide a means by which to connect these disjointed aspects of our knowledge on leadership and shed new light on a particularly influential component of group and organizational processes.

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