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NewScientist

New Scientist

June 14, 2008

The origins of **leadership**; Understanding why and how **leadership** evolved helps us understand our ambivalent relationship with those in power today

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SECTION: FEATURES; Cover Story; Pg. 42-45

LENGTH: 2695 words

WHAT makes a good leader? Do different political, economic and social situations demand leaders with particular styles? How should we judge who is right for the job? Why are we so often disappointed with those in charge?

In the run-up to the US elections Americans will doubtless be asking such questions. They are not alone. **Leadership** is an issue that pervades almost every aspect of our lives, from the family and the office to our local community, national politics and beyond. No wonder the subject attracts so much attention.

Despite the seeming glut of information, however, one aspect has been sorely missing - the historical perspective. Until recently, very few people have considered the origins of **leadership**. Yet to understand how our ancestors acquired the psychological biases upon which **leadership** is based is to see the concept in a whole new light. In particular, the evolutionary perspective highlights the importance of those who follow and the reasons why leaders and followers may not see eye to eye. It can also indicate what sort of leader is best suited to take charge in a particular situation. It can explain some of our seemingly arbitrary preferences - for tall leaders, for example - and it even suggests why there is a bias towards men as leaders.

In essence, **leadership** is a response to the need for collective action. How do members of a group decide what to do and how and when to do it? An obvious solution is for one individual to take the initiative and provide guidance while the rest agree to follow. If this strategy promotes survival, then psychological adaptations for both **leadership** and "followership" are likely to evolve. In humans these would have included specialised mental mechanisms for planning, communication, group decision-making, competence recognition, social learning and conflict management. Although such traits are generally associated with higher reasoning, cognitive pre-adaptations for **leadership** probably evolved long before modern humans ever appeared on the scene.

The foraging patterns of many insects, the schooling of fish and the flying patterns of birds all suggest that species lacking complex cognitive capacities can nevertheless display **leadership** and followership - perhaps using the simple rule "follow the one who moves first". Our closest animal relatives, chimpanzees, also use **leadership** to coordinate group movement and to keep the peace or wage war.

First among equals

The animal evidence supports the idea that adaptations for **leadership** and followership tend to evolve in social species. In humans, they were probably further shaped by our unique evolutionary history. There were three distinct stages in human development where the nature of **leadership** altered to reflect cultural and social changes (*American Psychologist*, vol 63, p 182).

The first and by far the longest phase extended from the emergence of the genus *Homo*, around 2.5 million years ago, until the end of the last ice age about 13,000 years ago. Natural selection for certain successful strategies of **leadership** and followership during this long era is likely to have shaped the distinctly human **leadership** psychology we still have to this day. Throughout this time, our ancestors probably lived in semi-nomadic, hunter-gatherer bands of between 50 and 150 mostly related individuals. Their lifestyle is widely thought to have resembled that of today's hunter-gatherer societies such as the Kung San of the Kalahari desert and the Amazonian Yanomamo. These groups are fundamentally egalitarian, with no formal leader. Although there are "Big Men" - the best hunters and warriors or wisest elders, for example - the influence of each is limited to their areas of expertise and, crucially, it is only granted with the approval of followers. This suggests that collaboration among subordinates allowed early humans to move beyond the dominance hierarchies found in other primates, towards a much flatter prestige-based hierarchy with a more democratic style of **leadership**.

With the development of agriculture some 13,000 years ago, groups settled, populations grew rapidly and, for the first time in human history, communities accumulated surplus resources. They needed leaders to redistribute this surplus and to deal with increasing conflict both within and between groups. The power of leaders grew accordingly, and with it the potential to abuse this power. Leaders could now siphon off resources and use them to create cultural elites, while disgruntled followers were less free to move away from exploitative rulers. The result of such changes was a more formalised, authoritarian **leadership** style and the emergence of the first chiefs and kings, as well as warlords bent on extracting resources through force.

The industrial revolution, some 250 years ago, paved the way for the final phase of **leadership** - the one to which academic discussions of **leadership**, which tend to focus on business and politics, almost exclusively refer. At the beginning of this era followers were little more than slaves, but as citizens and employees acquired more freedom to defect from overbearing leaders, the balance of power shifted away from authoritarian leaders and back to something more like the egalitarian approach of ancestral times.

So, what can evolution tell us about modern **leadership**? The ancestral environment may have equipped us with innate preferences for certain characteristics in our leaders. For a start, we want them to be both competent and benevolent, because these sorts of people will be better at acquiring resources and more willing to share them. We also tend to choose leaders with certain physical characteristics. Other theories of **leadership** have failed to account for the importance of seemingly arbitrary attributes such as height, age, weight and health, but these make sense from an evolutionary perspective. For example, ancestral Big Men were probably quite literally that: by dint of their imposing physique, tall people would have been more effective peacekeepers and more intimidating foes. Even today we have a bias towards taller leaders (*Journal of Applied Psychology*, vol 89, p 428). In ancestral times elders were likely to have acquired specialist knowledge, and in the modern world older leaders are preferred in situations where knowledge is crucial, such as in running public corporations (*Leadership and Governance from the Inside Out*, edited by Robert Ganssly and Jeffrey Sonnenfeld, Wiley, 2004). Followers may also have evolved a preference for fit and healthy leaders in situations where strength and stamina mattered. That could be why modern voters prefer physically fit and energetic political candidates (*Personality and Social Psychology Review*, vol 10, p 354).

More controversially, evolution might explain our bias towards male leaders in most circumstances. When men and women work together, men are quicker to claim **leadership** roles even when women are better qualified (*Psychological Bulletin*, vol 130, p 711). Moreover, a recent experiment by myself and Brian Spisak, also at the University of Kent (to be published in *Psychological Science* later this year), revealed that groups tend to look to men for **leadership** when faced with a threat from another group, possibly because inter-group conflict would have been resolved by force throughout most of human history. However, we also found that in situations where there is internal conflict in a group, women are the preferred and most effective leaders. This is confirmed by a recent mock election study which found that people tended to vote for a male president when their country was at war, but a female during peacetime (*Evolution and Human Behavior*, vol 28, p 18). A history of inter-group conflict might have predisposed men to adopt a hierarchical **leadership** style, while a need for social unity might have equipped women with a more egalitarian, personalised and

communal style. If the predominance of male leaders in many sectors of modern life is a vestige of our past, it could be a costly one in an interconnected world in which the emphasis is on interpersonal skills and network-building.

This raises another important aspect of **leadership** that is often overlooked - that what constitutes good **leadership** varies according to the situation. The different **leadership** styles adopted by various organisations, nations and cultures can be understood in part by considering the specific challenges posed by their particular physical and social environment. In the Netherlands and Australia, for example, where harsh natural conditions force the authorities to collaborate closely with citizens, there is a strong egalitarian ethos. In emergencies such as wars or natural disasters, followers readily defer to the decisions of a single autocratic individual. Indeed, US voters tend to choose hawkish presidents when threatened by war.

All this suggests that **leadership** and followership are flexible strategies shaped by the interplay between ancient evolutionary pressures and modern environmental and cultural demands. However, there are major differences between modern **leadership** roles and the kind of **leadership** for which our psychology is adapted, and this mismatch can be problematic. For a start, our hunter-gatherer ancestors would have deferred to different leaders depending on the nature of the problem at hand. Yet today a single individual is often responsible for managing all aspects of an enterprise. Few leaders have the range of skills required, which may account for the high failure rate of senior managers - in corporate America it runs at 50 per cent (*Review of General Psychology*, vol 9, p 169). Surveys routinely show that between 60 and 70 per cent of employees find the most stressful part of their job is dealing with their immediate boss. This may be partly because ancestral leaders only acquired power with the approval of followers, whereas in modern organisations leaders are usually appointed by and accountable to their superiors, while subordinates are rarely allowed to sanction their bosses. What's more, our psychology equips us to thrive in smallish groups of closely related individuals, which may explain why many people feel indifferent to large organisations and their leaders. Finally, in ancestral societies there would have been minimal differences in status between leaders and followers. In the US, average salaries for CEOs are 179 times those of their workers.

The upside is that insights from evolution also suggest more effective **leadership** strategies. In recent years there has been increasing interest in the idea of shared or distributed **leadership**. Some organisations are finding that executives are more likely to succeed if subordinates are included in the selection process. Meanwhile, effective businesses - including Toyota and Virgin - are designing and structuring their organisations to more closely resemble hunter-gatherer bands. For instance, they delegate decision-making to managers far down the chain of command, creating functional groups of between 50 and 150 members.

By emphasising interdependence and shared interests, values and goals, a truly transformational leader can change followers from self-interested individuals to committed collectivists. Unfortunately, such people are thin on the ground. Instead, we are often required to defer to leaders whose remit and behaviour is inconsistent with our evolved expectations of **leadership**. That can be alienating, but at least followers can sometimes do something about it. That is exactly what millions of US citizens will be doing when they exercise their power to vote for a new president.

A game of coordination

Mark van Vugt

It has become fashionable to use game theory to get an insight into social behaviours such as altruism and fairness. Last year, evolutionary psychologist Rob Kurzban from the University of Pennsylvania in Philadelphia, economist Edward Cartwright from the University of Kent, UK, and I adapted this approach to consider **leadership**. We devised a game that reflects the sorts of problems and pay-offs our ancestors might have encountered when they tried to coordinate their efforts.

Suppose, for example, that Pat and Jamie are both in dire need of water. They can either go to waterhole A, Pat's preference since s/he knows how to get there, or waterhole B, Jamie's choice, because it is closer to where s/he lives. Each derives an advantage by visiting their hole of choice; however, they must travel together for protection. The pay-offs associated with each combination of choices yields a matrix. Since survival is what matters in evolutionary terms, the scores shown represent the outcome in terms of reproductive success. The model holds for groups as well as pairs and in any social situation in which people have to

agree, such as where to hunt or whether to fight.

When people have to make their choices at the same time, most pairs fail to agree because each person chooses the option that benefits them most. As a result, nobody scores because coordination is essential in this game. However, if they play the game sequentially and one person takes the lead by moving first or indicating a preference, then most pairs do coordinate. Even though that means the follower usually ends up with a relatively poor pay-off, at least the problem is resolved - in the language of game theory, the players reach an "equilibrium solution". Since evolution favours equilibrium, and since this is best achieved by one person taking the lead, it seems likely that the psychological underpinnings of **leadership** and followership emerged by natural selection to allow early humans and other social animals to solve coordination problems of this kind (*Personality and Social Psychology Review*, vol 10, p 354).

Why be a follower?

Mark van Vugt

Considering **leadership** from the evolutionary perspective throws a spotlight on followers. The psychology of followership is usually neglected, but it is more interesting than that of **leadership**. Most of us are destined to be followers, yet we are only starting to understand what makes a good follower and how they influence leaders. A key puzzle is what motivates followers. Why would individuals agree to subordinate themselves when this puts them at a disadvantage compared with leaders in terms of power, status and resources?

The decision to follow may simply be a rational one: if the costs of competing for higher status outweigh the benefits, then following frees up time and energy that can be used more effectively elsewhere. Besides, followers can improve their position relative to leaders by engaging in collective action. Another idea is that complying with and observing leaders may allow followers to prepare themselves for future **leadership**. Finally, the disadvantages of following are partly offset by the benefits of belonging to a well-led group. So natural selection at the group level might account for **leadership**.

The relationship between followers and leaders is inherently ambivalent because there is always a risk that leaders will try to coerce or exploit their followers, and that followers will plot to depose their leaders. This tension probably created an evolutionary arms race in terms of the strategies used to gain control. Nevertheless, research shows that people readily adopt **leadership**/followership behaviour in circumstances that mirror adaptive problems, such as when there are internal group conflicts or external threats (*Journal of Personality and Social Psychology*, vol 76, p 587).

However, there are situations in which **leadership** is not necessary, and is even resented by followers. Experiments show that unnecessary **leadership** can actually undermine team performance (*Group Dynamics*, vol 2, p 168). The lesson for businesses and politicians here is that when faced with relatively simple or routine coordination problems, people usually perform better if left alone.

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LOAD-DATE: June 14, 2008

LANGUAGE: ENGLISH

PUBLICATION-TYPE: Magazine