Slipping the Yoke of the Heroic Paradigm: Looking for Quantum Leadership

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ABSTRACT: In this paper we argue that understandings and practice of leadership continues to be constrained by adherence to the "heroic" image, even in depictions of distributed and transformational leadership. We advocate making space for quantum leadership, those instances of direction-setting that emanate from the demos rather than its representatives. We present quantum leadership as resulting from the un-choreographed interactions of individuals anywhere in a group – many nudges that, in the aggregate, determine the direction of group activities and dispositions. It is leadership regulated not by bureaucratic control structures but decisions by individuals as to how they will interact with others. It is a type of leadership that has been overshadowed by the heroic paradigm.

Just over 30 years ago Stogdill (1974) observed that there were almost as many definitions of leaderships as people who had tried to define it. That situation persists, in large part because theoreticians and researchers have postulated many kinds of leadership.

In this paper, first of all, we argue that the distinctions between the various kinds of leadership are not as clear-cut as it may seem. We do this by highlighting a common element in definitions of leadership – the tendency (even lately in discussions of distributed leadership) to construe leadership as heroic, emanating from clear loci or "command centres." We then go on to draw attention to "free control" leadership, what we call quantum leadership, a kind of leadership that has not received much attention in the past because it lacks traditional command centres. We conclude with suggestions for investigating quantum leadership.

We hasten to assert, however, that we do not see any type of leadership as inherently superior to others. We believe firmly in the contingency principle: Fit the leadership provided to the exigencies of the situation. Thus we see quantum leadership as worthy of consideration when dealing with complex, jamais-vu circumstances.

Typing Leadership Theories

Studies and theories of leadership can be classified in terms of their general foci; that is, they can be grouped according to the aspect or dimension of leadership they concentrate on. Such foci include, for example, leaders' traits, group processes, power relationships, skills, contingent factors, leaders' cognitive processes, and ethical principles (e.g., Bass, 1990; Northouse, 2005; Lazaridou, 2002).
Another way to classify theories of leadership is in terms of assumptions about the loci of control – how the right to influence events is distributed. To do this it is useful to think of a continuum of distribution (DCC, Figure 1).

Figure 1
Distribution of Control

|————————————|————————————|—————————|
Low   High
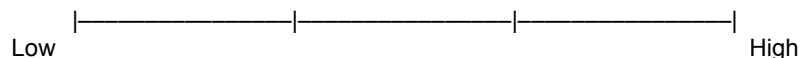
When this perspective is taken, some interesting implications for research and policy are highlighted. We compare four kinds of leadership in terms of this continuum: heroic, distributed, transformational, and quantum.

Leadership With Concentrated Control

Heroic Leadership

Many depictions of leadership have one important thing in common – to varying degrees, they promote the "heroic leader" image. For example, early definitions by Burns (1978), Bass (1990), and Yukl (1994), characterized leaders as front and centre, directing the activities of others, "being in charge." In this tradition Harris (2003, p. 126) recently wrote that

the "hero paradigm" of leadership … emphasises the capabilities of one person to
transform and improve an organisation. …The school leader is the gatekeeper of change.

The heroic image of leaders is very clearly operationalized in bureaucratic hierarchies and structures, whether they approximate the classic machine bureaucracy postulated by Max Weber or variants like matrix, professional, and adhoc organizations (Beairsto, 1999, pp. 7-9; Wikipedia, 2007b). Leadership in such organizations adheres to the core tenets of bureaucracy – hierarchies, rational-legal influence, rules specifying acceptable behavior, and close supervision.

In keeping with the heroic tradition, Northouse (2005) also has defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3, emphasis added) but one page later he states: "Leaders and followers need to be understood in relation to each other … and collectively...."

With this he hints at a type of leadership that has recently come to receive considerable attention in the literature, distributed leadership.

Distributed Leadership

This form of leadership seems to expand the locus of control. This is leadership that:
occurs from the inside out, as people see what needs to happen, apply their experience
and perceptions to the issue, and use their own creativity to invent solution (Wheatley, 2000,
p. 341).

Imperatives.

Recently distributed leadership has garnered much attention in the business world and educational organizations. Three factors that have contributed to this interest help explain its nature.

One reason is:
To ensure success in a global context, leaders need to … be open to continual learning as
the environment changes and presents them with new and unfamiliar issues. They need to
be innovative and responsive … to empower and involve others … (Sinclair, 2004).

Indeed, in much of the recent research literature distributed leadership in schools is shown to build cohesion in a school staff, particularly "in face of a common threat, from [government agencies], from the media, and from parents seen as too easily seduced by misinformation and disinformation" (MacBeath, 2005, p. 351). Other advantages are that it reduces the chances of erroneous decisions by single leaders, increases awareness of how one's behavior affects the organization as a whole, provides more opportunities to learn from one another, increases commitment to organizational goals and strategies, and supports synergy (Leithwood, Jantzi, Earl, Watson, Levin, & Fullan, 2004, p. 60).

Two additional reasons for the interest in educational circles are the increased scope and complexity of school administration, and the complexity of improving instruction.
The sustained press for school reform, and the concomitant devolution of decision making, has prompted principals to distribute the increased workload (Lashway, 2003; Møller & Eggen, 2005). For example, New Zealand's decentralization of educational governance at the end of the 1980s had principals resorting often to distributed leadership (Fris & Milne, 1996; Cardno, 2002). Another well-known example is found in Alberta, Canada, where the Edmonton Public School Board committed several decades ago, apparently with great success, to school-based management.

Instructional leadership requires expertise in many domains, including curriculum, pedagogical techniques, learning theory, the social contexts of schooling, and so on. Thus:
The idea behind distributed leadership is that the complex nature of instructional practice requires people to operate

in networks of shared and complementary expertise …. Schools need to have structures that develop the knowledge and skills of individuals and that stretch this expertise among people occupying the same role (such as teachers) and different roles (such as teachers and administrators (Elmore, 2002).

Distributed – but on a retractable leash.

Distributed leadership is presented as comprising leadership by various individuals and having many of the characteristics of teamwork: collaboration, capitalizing on multiple strengths, and a common view of goals and means (Gronn, 2002a; Woods, Bennett, Harvey, & Wise, 2004, p. 447). And successful school leaders, it seems, rely often on distributed leadership:

Successful headteachers as identified by researchers (see, for example, MacBeath, 1998;
Leithwood and Jantzi, 1999; Southworth, 2002; Day et al., 2002) … are those who recognize
that successful schools need many leaders (Day, 2004, p. 426).

It is not uncommon, however, for descriptions of distributed leadership to be ambiguous concerning who controls what happens in an organization. Close inspection, however, suggests that the "distributed" leadership being discussed is often more autocratic than democratic, tending toward the "concentrated" end of the distribution of control continuum.
In Harris' description, for example, the contour metaphor implies a hierarchical control structure:

Distributed leadership means multiple sources of guidance and direction, following the
contours of expertise in an organisation, made coherent through a common culture. …
[The] job of those in formal leadership positions is primarily to hold the pieces of the
organisation together in a productive relationship. Their central task is to create a common
culture of expectations around the use of individual skills and abilities (Harris, 2002, p. 11).

A contour is "a line on a map connecting points on a land surface that are at the same elevation above sea level" (Merriam Webster Dictionary, emphasis added). The contour metaphor, then, suggests that distributed leadership is characterised by hierarchically arranged domains of expertise and influence – guidance and direction follow (are limited to) the contours (levels/types) of expertise. This suggests that influence exercised at one level is subject to influence or control at higher levels. Thus, teachers are portrayed as working collaboratively to develop expertise in teaching while those in formal leadership positions are cast as fostering the culture of expectations. Defined this way, distributed leadership in schools reduces to heroic leadership – teachers ostensibly participate as equals with one another and the principal, but do so within hierarchical power structures that make the principal the ultimate power in the school. Harris (2002) reinforces this depiction of distributed leadership when she reports:

The heads … had deliberately chosen to distribute leadership responsi-bility to others and
had put in place systems and incentives to ensure this happened. … [But] in all cases, they
remained important gatekeepers to change and development, guiding their schools in a
clear and purposeful direction (p. 12).

Day (2005, pp. 276-284), too, found that successful school leaders operated in the heroic style in that they held appropriate experts accountable for specific tasks and helped them to refine their skills but imposed an order grounded in their personal and professional values.
Similarly, Beairsto (1999), has depicted distributed leadership as entailing hierarchy and only conditional dispersion of control:

[School] leadership is much more creative and conceptual than technical, and requires
broad understandings and deep insights rather than merely particular knowledge or
specific skills (p. 2).

More telling, Beairsto supports Starratt's (1996) contention that:

[School leadership is responding] to the challenge of dealing with meanings that undergird
human life in the twenty-first century, the challenge of building a concern for and an
understanding of the demands of community in public life, and the challenge of promoting
a broad spectrum of excellences in the private and public lives of young people (p. 2).

These two descriptions could be taken to imply that control must be restricted to bureaucratically designated leaders because only they, not teachers, have insights that go beyond the technicalities of educating.

Lyman, Ashby, and Tripses (2005, p. 143), too, concluded that often "distributed leadership" is ultimately grounded in a paradigm of power and dominance.

Of course, when there is heavy emphasis on accountability, school principals will not risk having anyone doing things that run counter to externally imposed and enforced expectations and standards (e.g., Day, 2005; Møller & Eggen, 2005).

Forms of distributed leadership.

Gronn (2002b, 2003) and Spillane 2006) have posited two types of distributed leadership:

1. Additive or uncoordinated – leadership functions are allocated to many people with little
or no deliberate and/or sustained effort to take account of relationships among them.
2. Holistic or coordinated – some, many, or all sources of leadership in the organization are
managed consciously to foster synergy.

For our purposes, it is important to emphasize two things. First, these definitions make a clear distinction between leadership functions on the one hand and coordination/management on the other. Second, in both forms leadership functions are allocated to others – that is, there is always some management. Accordingly, in Figure 2 we have used broken lines to indicate that both the additive and holistic forms entail conditional, retractable dispersion of control.

Figure 2
Distribution of Control in Additive and Holistic Distributed Leadership
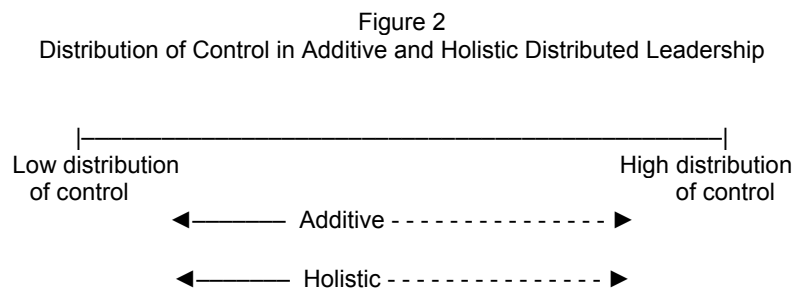
This is supported by findings from the recent investigations by MacBeath (2005) and Leithwood Mascall, Strauss, Sacks, Memon, and Yashkina (2007).

In a study of eleven schools that reputedly "exemplified distributed leadership or were becoming more distributive in their practices" (2005, p. 350), MacBeath uncovered six forms of distributed leadership (pp. 357-363) that seem to us to exemplify a gradient of distribution, from low to high. The first three forms of leadership – formal, pragmatic, and strategic – clearly involve top-down delegation, with bureaucratic power as the lever of control. But in the remaining three types – incremental, opportunistic, and cultural – control seems to be more and more widely dispersed, based on the authorities of expertise and interpersonal ethics.

Leithwood et al. (2007) investigated patterns of leadership distribution as well as which leadership functions were performed by whom (p. 38). In keeping with our purposes for this paper, it is important to note three things about the study. First, the researchers used a typology of distributed leadership that inheres a gradient in the distribution of control, from widely dispersed in spontaneous collaboration, through moderately dispersed in intuitive working relations, to tightly constrained in institutionalized practice (Leithwood et al, 2007, pp. 40-42). Second, the study centered on district mandated reform initiatives. This feature helps to explain the finding that "the functions most likely to be performed by informal and nonadministrator leaders were more likely to be managerial in nature rather than direction setting" (Leithwood et al, 2007, p. 58). Third, the researchers conceded that their data likely underestimated the amount of informal leadership exercised in their case-schools (p. 59) because their conception of leadership functions did not extend to "interactions that occur among leaders, followers, and the situations in which they work" (p. 42, emphasis added). In sum, this study was not sensitive to leadership at the "high" end of the distribution of control continuum.

Transformational Leadership

In his seminal work, Burns (1978) postulated two discrete forms of leadership, transactional and transformational, which differ in how influence used. Transactional leaders are "conservators and regulators of an existing order of

affairs" (Zaleznik, 1992, p. 79) and gain compliance with their objectives through conditional distribution to their followers of resources they control. In contrast, transforming leadership occurs when the various levers of influence that leader and followers bring to a situation (typically formal power and expert authority) are accorded equal value and used in concert to further larger human needs – to "raise the level of human conduct and ethical aspiration of both the leader and led, and thus it has a transforming effect on both" (Burns, 1978, p.20). These descriptions suggest that transactional and transformative forms of leadership contrast in their loci of control. In the case of transactional leadership control is highly concentrated – it is in the heroic genre. In the case of transformational leadership, however, the picture is not as clear. In some descriptions of transformational leadership the right to initiate and direct activities is not doled out or conferred by a nominal leader; it is seen to be taken by members of the group regardless of position in the organization – it is "dispersed leadership" (MacBeath, 2005). In many descriptions, though, transformational leaders are depicted as permitting others to lead – usually at their discretion and always subject to executive override – which renders it leadership with a significant "heroic" dimension.

This contronymous1 use of the term transformational is evident in many discussions. For example, in a large-scale study of England's National Literacy and Numeracy Strategy, Leithwood et al. (2004) assessed teachers' perceptions of the extent to which their principals provided transformational leadership that was "neither conceptualized nor measured as a heroic model of leadership" (Leithwood & Jantzi, 2006, p. 205). We think, though, that five of the nine items in their questionnaire may have been construed by respondents as asking them to rate their principals as "conservators and regulators" (Zaleznik, 1992, p. 79) who limited their options for changing classroom instruction by promoting "the Strategy" and its prescriptions (Table 1).

1 A contronym or Janus word is a word with multiple meanings, one of which is defined as the reverse of one of its other meanings. For example, the word "fast" can mean "moving quickly" as in "running fast," or it can mean "not moving" as in "stuck fast." To buckle can mean "to fasten" or "to bend then break." To weather can mean "to endure" or "to erode." Weedy can mean overgrown (the garden is weedy) or stunted (he is weedy). To overlook can mean "to inspect" or "to fail to notice" (Wikipedia, 2007).

Table 1
Promoting "the Strategy"

Setting Directions

[The principal:]

    1. Helped clarify the reasons for implementing the Strategy.
  Developing People
    4. Gave you individual support to help you implement the Strategy.
6. Modeled a high level of professional practice in relation to the Strategy.
  Redesigning the Organization

8. Created conditions in the school which allow for wide participation in decisions about the Strategy.
9. Helped develop good relationships parents as part of the school's efforts to respond productively to the Strategy.
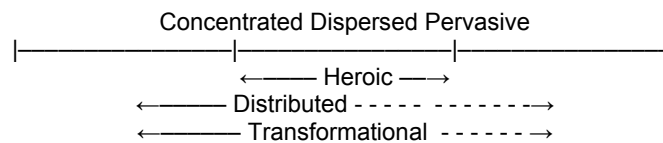
We have two reasons for this speculation. First, the questionnaire developed for this investigation may have been coloured by earlier work in which Leithwood and Jantzi defined and operationalized transformational leadership with both a "leadership" and a "management" dimension (Leithwood & Jantzi, 1999, p. 454). Second, implementation of the Strategy took place in an extensive bureaucratic framework that included curriculum materials, resource documents, training programs, and videos depicting "good" practice (Leithwood et al., 2004, p. 203). In addition, the Strategy included powerful incentives and sanctions for compliance, for example by publishing league tables and labeling schools as failing. It is not surprising, then, that the researchers themselves wondered whether changes in the teachers' classroom practices corresponded to only those advocated by the Literacy and Numeracy Strategy (Leithwood & Jantzi, 2006, p. 208).

If the leadership provided by the participating principals in fact did not entail a redistribution of power and a realignment of authority within the schools, it was pseudo-democratic and essentially managerialist (Hatcher, 2005, pp. 257-259), which Wainwright (2003) characterized bluntly this way: "I participate, we participate, but they decide what kinds of issues we can decide" (p. 193).

In conclusion, it seems that transformational leadership often tends toward the concentrated rather than diffused end of the distribution of control continuum.

In sum, Figure 3 indicates where heroic, distributed, and transformational leadership tend to fall on the distribution of control continuum.

Figure 3
Distribution of Control in
Heroic, Distributed, and Transformational Leadership

Concentrated Dispersed Pervasive
```
|————————————|————————————|————————————|
              ←——— Heroic ——→
     ←——— Distributed - - - - - - - - - - -→
     ←——— Transformational  - - - - - -→
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Leadership With "Free Control"

Notwithstanding the apparent hegemony of the heroic paradigm, there are scattered references in the literature to non-heroic leadership. One type occurs in what are commonly known as "skunkworks," which are characterized by an absence, or at least a suspension, of centralized control and oversight:

A skunkworks is a group of people who, in order to achieve unusual results, work on a project in a way that is outside the usual rules. A skunkworks is often a small team that assumes or is given responsibility for developing something in a short time with minimal management constraints. Typically, a skunkworks has a small number of members in order to reduce communications overhead. A skunkworks is sometimes used to spearhead a product design that thereafter will be developed according to the usual process. A skunkworks project may be secret (TechTarget, 2007; emphasis added).

Another example is found in the "open source" approach to the development of computer software. In this approach, copyright restrictions on the source code of software are removed and the public is invited to extend or improve the starting-point software incrementally with individual and/or collaborative contributions (Wikipedia Free Encyclopedia, 2007c). The directions that open source projects take is very much a function of individual participants' judgements about building on, ignoring, or overriding others' contributions; and order emerges from a collective wisdom grounded in the interactions of the volunteer participants.

Non-heroic leadership is found also in the education arena. As mentioned earlier, MacBeath (2005) has referred to ''dispersed'' leadership, wherein leadership is taken by members of the group, regardless of position in the organization, rather than distributed to them by an official leader. And Fullan (2001) concluded, from research on managing change, that:

Change cannot be managed. It can be understood and perhaps led, but it cannot be controlled … the best way to manage change is to allow for it to happen (p. 3).

Of course, in every case of leadership without centralized control, some form of control (usuallly bureaucratic) is eventually imposed. But the important point here is that coordination, effectiveness, and efficiency – basic rationales for bureaucratic control – can be achieved in its absence. An intriguing question, then, is, "How does leadership occur when there is no centralized control?"

The quantum perspective.

We want to suggest now that overshadowed by the well-known types of leadership is a form of leadership that turns traditional views upside down, a form that has no centers of concentrated control. On the DCC it sits at the "high" end. We call it quantum leadership.

The quantum way of thinking about leadership is grounded in insights and metaphors from the new sciences, in particular chaos theory and complexity science. Again, we caution that this thought frame should be seen as

complementary to, not a substitute for, the previously described perspectives. It seems to be most appropriate in situations where there is high complexity, much flux, and great ambiguity – not situations where there is relatively high stability, order, and predictability.

At the centre of the quantum perspective on leadership are five notions: contextualism, co-creation, catalysis, open-source organizational culture, and induced thinking.

Contextualism and co-creation.

The quantum thought frame postulates that entities (individuals) are essentially unique "perturbations" in an infinite energy field. Thus each entity or individual is seen as inextricably linked to and influenced by all other individuals through this field or web; this is referred to as the entity's "contextualism." As a result, an entity's identity is inseparable from its relationships with other entities; it is through these relationships that entities "co-create" their realities (Zohar, 1997, p. 50). In addition:

Because … [entities] are in constant flux, and because they co-create the relationship between them, there is an infinite number of possible paths ("virtual transitions") into the future. As far as management of human affairs is concerned, therefore, the "right path" will "emerge" from the interaction of [entities] and their contexts (Fris & Lazaridou, 2006, p. 11).

In organizations co-creation is most obviously grounded in verbal and behavioral interactions, hence the primacy of communication, cooperation, and networks. And this leads to a critical corollary: Co-creation by individuals in interaction is what determines the directions that organizational activities take and is therefore the primordial source of leadership.

Catalysis

In the quantum approach to leadership it is assumed that prediction is impossible and that indeterminacy and ambiguity are facts of life. In light of this, the members of a group have to rely on intuitive feel for situations and, most important, trust in the character, creativity, and abilities that members bring to the group. Leadership is seen as flowing from acts anywhere in the group that help to release the energy and the potential of individuals through relations with others.

Leadership is an act that enables others and allows them, in turn, to become enablers (Foster, 1986, p. 187).

In this sense all the members of the collectives are potential catalytic leaders rather than heroes, generals, orchestrators, or choreographers. The sources of leadership are individuals, networks, and – most important – interactions. This may be what one senior school executive had in mind when he/she said about teachers:

[There is a need] to take the ego out of the system – to create forms of collaborative work that would make the most of staff members' collective capacities, encourage the development of new capacities, and reduce unproductive knowledge hoarding and competition (Leithwood et al., 2007, p. 62).

Perhaps she/he felt the same way about notions of leadership – that it would be helpful to remove the ego component in models of leadership.

Open-source culture

In the quantum perspective, leadership flourishes in an ethos of cooperation and integration, an ethos that is very different from the bureaucratic ethos of control. It entails a kind of empowerment that is fundamentally different from the pseudo-empowerment that is often associated with the distributed leadership we described above. As Renihan and Renihan (1992) point out, empowerment is not:
kidding teachers into thinking pre-planned initiatives were their ideas (that is entrapment) …

holding out rewards emanating from positive power (that is enticement) … increasing the responsibility and scope of the jobs in trivial areas (that is enlargement) … concluding that enlarged job expectations just go along with the territory (that is enslavement) (p. 11).

The kind of empowerment that characterizes quantum leadership is evident in MacBeath's (2005) notions of opportunistic and culturally distributed leadership. Opportunistic leadership is described as follows:

As we move from top-down to bottom-up leadership the emphasis shifts from what the head [principal] does to what others do. In this category leadership … is assumed rather than conferred. It is opportunistic rather than planned. … "Distribution" as a conscious process is no longer applicable because people exercise initiative spontaneously and collectively (p. 361).

Culturally dispersed leadership occurs when a nurturing set of conditions supports seeding, grafting, and cultivation of ideas and practices among the members of a group. In both types, empowerment is effected by what is essentially an "open-source culture."

Induced Thinking

To conclude this description, we suggest that quantum leadership may involve more than meets the eye, something suggested by emerging understandings about human thinking.
Neuroscientists suggest that there are three kinds of thinking – serial, associative, and quantum – each of which involves different brain activities. Serial thinking, involves neural tracts that consist of strings of neurons connected in series. These structures support rational, logical thinking and habitual responses to familiar situations. It cannot deal with ambiguity. In comparison, associative thinking involves neural networks, in which very large numbers of neurons are interconnected – each neuron acts on and is acted on by many other neurons.

These complex structures can deal with ambiguity and support such functions as trial-and-error thinking and the use of schemata – recognition of similar patterns (Lazaridou, 2002, p. 120). Finally, quantum thinking appears to be supported by some kind of energy field that is created when many neurons "fire." This is like the magnetic fields that develop around wires when electric current flows through them. Quantum thinking is, therefore, more than just the integration of both serial and associative thinking; it is synergetic. It may explain such phenomena as, for example, the "Aha!" moment, flashes of inspiration, and ephemeral instances of "judgement" in principals' problem solving that Lazaridou (2002) reported.
In the above paragraph the unit of analysis was an individual human being. We wonder whether a form of induced thinking may occasionally occur in groups. This might help to account more fully for such events as the sudden coalescing of sentiment about dealing with a previously contentious and divisive issue – without heroic leadership – and the emergence of inspired ideas during brain-storming sessions. Of course this idea rests on acceptance of the quantum proposition that all entities have not only a particulate quality, but also a wave-like quality because they are embedded in an energy field, the quantum vacuum (Zohar, 1997).

In sum

To conclude our sketch of quantum leadership, we offer the following propositions:
• Quantum leadership should not be thought of as necessarily a better kind of leadership. It is one of a number of alternatives that are theoretically available for facilitating human endeavours.
• A useful theoretical perspective on the place of quantum leadership in the known constellation of leadership theories is to consider its location on the "dispersion of control" continuum (see Figure 1), where one extreme represents situations in which control is concentrated in one person or office while the other represents situations where control flits among all members of a group insofar as direction is the product of "pushes" provided by individuals. In Figure 4, we have superimposed various forms of leadership on this dispersion continuum. Clearly, quantum leadership lies at the high dispersion end which is, to use an oxymoron, the "free control" zone.

Figure 4
Positioning Types of Organizations and Leadership on the
Distribution of Control Continuum

• Quantum leadership can arise anywhere in a community and potentially involves an infinite number of loci of control.
• Quantum leadership is a synergistic outcome of logical and associative thinking.
• Quantum leadership is appropriate only when certain contingencies exist: (1) the setting is volatile, chaotic, and complex; and (2) the members of the organization are disposed to deal with that volatility, chaos, and complexity because they are in symbiosis – a readiness, based in personal confidence and trust, to engage in reciprocal social and professional exchanges. The notion of "psychological maturity" (Hersey & Blanchard, 1996) is pertinent.
In sum, quantum leadership is a form of leadership that contrasts starkly with heroic leadership in that it has no centres of concentrated control and sits at the "High" end of the DCC.

However, with the use of suitable structures, the two can coexist. Three such accommodations are "skunkworks," open-source decision making, and "the post-bureaucratic organization."

Like Weber's ideal or "pure" bureaucracy, the "post-bureaucratic" organization (Heckscher & Donnellson, 1994) does not occur in the absolute or pure form – it is a useful construct that points to alternative patterns of organization.

The "post-bureaucratic" organization requires the redistribution of power and authority (Harris & Lambert, 2003). Thus, in Heckscher and Donnellson's rendition of the pure post-bureaucratic organization, decisions are based on dialogue and consensus among equals rather than power and dicta; individuals interact in fluid networks rather than rigid hierarchies; interfaces between the organization and its environments are open and nebulous; improvisation is valued; and there is an emphasis on meta-decision-making rules rather than decision-making rules.

In an organization that approximates this absolute model, therefore, leadership acts are performed by many if not all members rather than a few. An organization of this type approximates the ideal model of democracy: demos and kratos combine to suggest that "the people rule" (Wikipedia, 2007a).

But:

Democracy is unattainable unless it is brokered by institutions – mandated by the people and made accountable to them – whose primary purpose is to prevent the strong from oppressing the weak and to prevent people of all stations from resolving their differences by means of violence. The collective noun for such institutions is government (Monbiot, 2003, p. 41).

In keeping with this perspective on organization and leadership is Lambert's (1995) notion of reciprocal leadership, which she defined as "the reciprocal processes that enable participants in an educational community to construct meanings that lead toward a common purpose of schooling" (1995, p. 32). She further described leadership as:

not finite, not restricted by formal authority and power; it permeates a healthy school culture and is undertaken by whoever sees a need or an opportunity (1995, p. 33).

In the business world, an organizational structure that fits this approach is the "skunkworks." Its origins are said to be with the Lockheed Martin aeronautics company, where it was first used formally in 1943.

A skunkworks is a group of people who, in order to achieve unusual results, work on a project in a way that is outside the usual rules. The skunkworks team assumes or is given responsibility for developing something in a short time with minimal management constraints. A skunkworks is often used to spearhead a product design that thereafter will be developed according to the usual process. Historically skunkworks usually have worked in secret. (Wikipedia, 2007a-e; TechTarget, 2007).

Conclusion

Our review indicates that thinking about leadership has been shaped significantly and predominantly by the newtonian or systems paradigm that sends administrators looking for mechanisms that will give them control over processes and produce the outcomes they seek. This orientation has resulted in attention being focused primarily on controlling events in organizations through such means as careful planning, establishing hierarchical systems of roles, articulating clear goals and productivity expectations, performance appraisals, and incentives to induce compliance with organizational goals. We hasten to add that we see nothing wrong with this approach to administration – unless, of course, it is carried to extremes and/or perverted. Indeed, we accept that the darker aspects of human nature make systems of ethics, law, religion, and governance/administration indispensible.

However, we believe that preoccupation with the heroic genre has led to insufficient attention being devoted to the possibility that other forms of leadership may exist. Hence we suggest that it is time to widen the field of vision in studies of leadership, starting with a look at quantum leadership. In service to this, more attention should be devoted to what happens among the rank and file members of organizations – "the people who form the major portion of a group, organization, or society, excluding the leaders and officers" (The Free Dictionary, 2008) – as they negotiate the challenges of their work and lives. In schools this translates into the interactions of teachers. This would be in keeping with Sackney's contention that "unless improvement strategies focus on what happens in classrooms (which is where learning happens), then little improvement will occur;" and with the importance that Moos and Huber attach to fostering communities of learners (cited in Townsend, 2007, pp. 9, 16-17). Furthermore, findings from Robinson's (2007) review of recent research into "what works and why" in schools suggest that better understandings of how

teachers interact would be useful. The 26 studies Robinson reviewed showed that increases in valued student outcomes were associated most strongly with actions that fostered teacher learning and development:

Leadership Dimension	Average Estimated Effect Size
Maintaining an orderly, safe environment	0.27
Aligning resources with pedagogical purposes	0.34
Setting goals and expectations	0.35
Instructional supervision: teaching, curriculum	0.42
Fostering teacher learning and development	0.84

Note: Adapted from Robinson, 2007, p. 8.

Moreover, the review showed that more effective and lasting teacher learning and development occurred when the teachers "co-constructed alternative theories of practice" (p. 16).
Accordingly, researchers would do well to focus on how the rank and file interact, both in terms of both interpersonal interactions and networks.

Moreover, the characteristics of quantum leadership, as construed in this paper, suggest that investigations incorporate the following guidelines:

Methodology

Assume that meanings are constructed.

Method

Use an ethnographic case study approach.
Gather data with interviews.
Use a computer program to extract participants' meanings.
Be sensitive to co-creation.

Representation

Strive to describe others' paradigms – "move beyond our blind prejudices" (Verhoeven, as cited in Pole & Burgess, 2000, pp. 17-18).

Research focused and structured thus would address the core thesis of this paper:
It is high time to slip the yoke of the heroic paradigm of leadership and to investigate the possibility of "quantum leadership."

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