Complexity Theory, Leadership, and the Traps of Utopia

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Writers in leadership and organizational studies have accrued a long history of interest in assorted complexity ideas, ranging from the pseudo-scientific and almost evangelistic (Wheatley, 1994; 1996) to the more scholarly and empirical (Stacey, 1995; 2005). Complexity language offers an ebullience that fits well with the predilection of some to insist upon a leadership/management dualism: that is, the claim that leadership is an art, involving creativity, flow and dialogue, in contrast to "management" which is unenlightened plodding in dull administration, hierarchy, and authoritative direction. Leadership consultants wielding versions of "chaos" or complexity "science" have flooded paperbacks and boardrooms with notions of emergence, self-organization and interconnectivity since at least the 1990s (Eoyang, 1996; Senge, 1990). So successful has been this wave that many organizational leaders were swept into adoption of "complexity" approaches. For researchers, one happy result has been the proliferation of organizational sites offering concrete demonstration of the diverse impacts of complexity principles implemented as leadership strategy (e.g. Houchin & Maclean, 2005).

Given this history, it is very useful to see where contemporary writers on leadership such as Jeffrey McClellan have moved in thinking through complexity principles. Certain traps await that have snagged others in attempts to re-generate notions of leadership with notions of complexity. And the same problematics in complexity remain, with few theoretical constructs to address fundamental issues of organizational life such as power relations and labour process. McClellan does not focus overmuch on

these issues, preferring to dwell upon improving leadership than to critique core concepts of complexity in leadership. There is nothing wrong with this, and no doubt there are problems in the staid sort of institutional administration described by McClellan that might benefit by introducing more dialogue and reducing dreary auditing paperwork. And beyond his ideas for better leadership, he underscores important notes about complexity that are not often sounded in this genre of utopian leadership principles. But certain traps, gaps and tensions remain. The following thoughts are offered to accompany his article —more an addendum than a critique. The issues I want to raise continue to haunt any of us trying to apply complexity theory to organizational leadership.

McClellan's argument begins in the context of higher education institutions, stating an intent to focus on practices of academic advising. Academic advising is a particularly interesting practice to consider critically, both in terms of how it became an issue for management in the first place (and the histories of concern that led to this framing), and in terms of the consequences to its processes. Advising is, after all, a potentially high-risk relationship of mutual vulnerability and surveillance: while students can be dependent on their advisors for plotting their success and mopping up their disappointments, advisors and institutions can be held legally responsible by unhappy students who achieve rather less than their aspirations. And in a complexity key of analysis, academic advising potentially is a fascinating activity in which to consider the dynamics of emergence—emergence of academic subjectivities, of life trajectories, of knowledges and their masquerades, and of surprising disturbances and novelties.

Certain complexity principles that McClellan introduces in this article could very well shed useful insights on academic advising. "Incompressibility", for example, the appreciation that the vast complexities of any system will escape any single attempt to represent or understand it, would be useful in contemplating academic advising—a practice occurring across hundreds of locations, time periods, configurations, communication styles, and purposes. Like any mega-project where no one person can possible know what really is happening or how it all comes together, academic advising practices resist centralized oversight and coordination. McClellan also points to the complexity principle of "redundancy", important in understanding how a system achieves continuity and finds stability while far from equilibrium. An exploration of dynamics of both redundancy and disturbance in academic advising practices and related institutional regulatory mechanisms might be able to show the diverse configurations of academic advising as it emerges in different systems, and the dynamics at work in the continual adaptation of these forms. The complexity concept of "nested systems", which some have used to analyse communications across different disciplines (McMurtry 2006, 2007), might also be fruitful in examining the navigation among different forms of knowledge by a student and advisor.

Clashing Ontologies

However, McClellan does not dwell upon dynamics of advising or its organizing. He quickly moves from this problem to focus upon his primary interest in "leadership bodies" and their processes of governing these advising practices. More precisely, he would like to show how complexity principles can enhance and even transform the "traditional" leadership that he argues is now coordinating academic advising. But the first trap yawns before him: how can complexity science be employed to address a concept like leadership, which emerges from a rather different ontology? Complex adaptive systems don't have leaders in the sense that McClellan is using this term, and they aren't preceded by a received concept like leadership. That is precisely the point of studying closely the dynamics of strong emergence, which bears very different assumptions about how elements move, combine and generally come into begin for a collective. In fact, for some complexity theorists like Barad (2006), all matter is ontologically indeterminate until this interactivity—or more accurately *intra*-activity— gives rise to subjects and objects. Nothing is anterior; nothing pre-exists what emerges collectively. But a concept like leadership depends fundamentally on the assumption that, entirely aside from the system's ongoing dynamics, there is some kind of visible control appointed, and that this control is located within an identifiable human body or group of bodies. This is not to say that complex adaptive systems lack control, but it emerges in very different ways according to emerging patterns that become amplified or suppressed through mechanisms such as feedback loops and nonlinear dynamics.

Leadership, on the other hand, is intentional. It is human. While it works from inside the system, it is distinct from other elements simply interacting with one another because leadership must adopt a vantage point from outside the system. McClellan aptly points out that "any single perspective holder is limited in his or her capacity to both understand the system, as well as to interact effectively within it due in part of the numerous variables and actors and the extensive interdependent relationships within complex systems" (p. 6-7). Nonetheless, leadership presumes to develop plans, make decisions, and direct a system towards what have been identified as desirable outcomes, as McClellan himself notes. These outcomes might be aligned with economic or social objectives, they might be about promoting human development or social justice or even productivity and profit. But a complex adaptive system does not care about what it evolves into. It simply continues to adapt to its changing circumstances. Even when we might try to redefine leadership, as I believe McClellan is trying to do, ontological tensions arise when it is juxtaposed with principles of complexity science. For example, in an effort to counter "traditional" leadership approaches of hierarchical authority, McClellan recommends Quinn's (2004) interactional leadership where individuals become purpose centered, internally driven, and focused on others. While appealing at one level, this conception is grounded in a human-centric ontology that hearkens to humanist assumptions of striving for improvement through the force of personal agency. McClellan moves on to advocate Greenleaf's (1977) "servant" leadership, a deliberate counter-configuration of human positioning that is equally foreign to dynamics of emergence. Overall, McClellan focuses on the person and inter-personal,

turning to processes of meaning-based, sense-making and interpersonal communication. These processes are of course important, and have accumulated volumes of literature in organizational studies from writers such as Weick (1995). But they are derived from human-centred social constructivist and symbol interactionist theories of organization, not complexity. Complexity principles simply focus on the biological and material mediations and connections that are critical in the emergence of systems.

Furthermore, in developing his complexity-informed recommendations for leaders' sense-making and practices, McClellan highlights values-oriented work, such as "caring", "tough love", and holding "values in paradox" (pp. 15-16). While no doubt useful suggestions, it is difficult to see the relevance of these to complexity principles which are not values-based in any way. In fact, excellent models of complex adaptive social systems are presented by socially undesirable organizations such as terrorist cells and drug-dealing networks. Discussion of values and values-work in leadership are of course important, but must be imposed from some other theory. The problem is not with these values, per se, but with their ambivalent origins. Furthermore, if the leadership enterprise depends on such values, and if these are not inherent within the complexity principles informing the recommended leadership strategies being recommended here, it is unclear how complexity principles alone generate good leadership. We are back to a fundamental tension between the ontology of complexity science and the distortions that are produced when it is introduced into leadership discourses.

Power Relations and Politics

The second trap of using complexity science to theorize organizational leadership is actually a gap: complexity lacks theoretical constructs that can address power relations, politics, and responsibility. Leaders themselves, whether formal, informal or distributed, are constituted and sustained through political positionings and a great deal of ongoing negotiation among power relations. Work organizations are highly contested sites, where the clashing interests of labour and management, or more fundamentally, between labour and capital, can never realistically be construed as simply part of a unitary evolving system. Higher education institutions are further complicated by hierarchies of staff and knowledge, conflicting stakeholder interests of students, industry partners, government, and the public, and conflicting demands for accountability. McClellan acknowledges these differences as valuable, arguing that:

> …multiple perspectives allow the leader to see the complex system in a more complete way than he or she would based solely on his or her own limited perspective. Effective feedback mechanisms from within the larger system that represent similarly diverse perspectives and values further strengthen this capacity. The group is then more able to make decisions that balance the different competing values inherent within the system and to hold these in sustained paradox. (p. 16)

The metaphor of holding competing values in a "sustained paradox" may indeed suggest a useful strategy for working with diversity. But to work, it must assume a certain equity among the perspectives. That is, after all, the approach of complexity

theory—it is unconcerned with differential power among a system's elements, only with what emerges in their nonlinear interactions. But in work organizations some perspectives hold greater legitimacy and visibility, while others are unrecognizable, or voiced in language that cannot penetrate the existing configurations in order to offer the contrasting feedback. Some mobilize or subjectify others, and some accumulate density and intensity in the organizational pattern in ways that exert more force than others. Where leaders may indeed wish to "balance the different competing values", they must be astute analysts of these complicated politics, resistances, coalition-building and position-jostling among these stakeholders and hierarchies. Complexity theory not only is unhelpful in such analysis, it may actually occlude the politics in its focus on emergence.

Leaders above all carry responsibility for the people in their system, as well as the responsibility to make decisions towards particular purposes. But here again, complexity principles are silent on questions of responsibility, as I have argued elsewhere (Fenwick, 2008). Responsibility can be conceptualized in many ways, and it is not necessarily about rational decisions and ethical codes. But responsibility always embeds a moral dynamic. It is an orientation to right action, however that is defined. It is also an orientation, a responding, to the others for whom one is responsible. But complex adaptive systems do not privilege the well-being of particular others, nor indeed the well-being of humans over other elements in the system. As two well-known writers in complexity in education have pointed out,

> …complexity theory, while acknowledging that selfish intention can give rise to horrible wrongs, is more prone to regard the injustices of the world as inevitable consequences of complex dynamics. Unequal distributions of wealth and power, argue complexivists, are not only inevitabilities; these are phenomena that are given to self-amplification. Consider, for example the way people aggregate into cities. As insulting as it might sound, the emergent patterns of organization do not depend at all on the fact that humans are doing the clustering. The same patterns show up in colonies of bacteria. In fact, they arise when smoke particles deposit on a ceiling. The rich *will* get richer, the advantaged *will* gain more advantage—not because of intention, but because of the laws of nonlinear dynamics. Such statements are met with knowing nods by complexivists and with indignation by critical theorists. (Davis and Sumara, 2008, 169-70)

Responsibility also includes strategy and governance, which in work organizations are critical leadership activities. Strategy and governance both require practices not only of opening new possibilities but also of ordering and limiting. A leader cannot simply foster a system's continuous improvisation, connectivity and adaption through holism, redundancy and requisite variety. Leaders must also engage in what Osberg and Biesta (2010) call complexity reduction. A socio-political system's durability and continuity is achieved not through continuous chaos and disorderings, but through the productive tensions balancing expansions and reductions, disorderings and orderings. This is not to say that complexity notions are bad, just that they are inadequate by themselves to address the issues of leading work organizations posed by power relations, politics and responsibility.

Concluding Thoughts

"The principles of complexity science" (p. 12), as McClellan describes them, are clearly enticing for those committed to more creative, more humane and better functioning organizations. The tenets of complexity science, even though rooted in mathematical constructs of fractal geometry and scientific explanations of dynamic equilibrium (Prigogine, 1997), clearly bear some application to social sciences in general and contemporary social work organizations in particular. In explaining what he characterizes as an overall "turn" to complexity, Urry (2005) noted it is not surprising given that complexity characterizes the global conditions of trade, migration, and communications— with the ever-evolving interconnectedness of ideas, processes and organizations and the tangled proliferation of technology-mediated networks. Byrne (2005) is also among those who argue that complexity science offers the best rigorous analytical framework for our times, providing

> the interdisciplinary understanding of reality as composed of complex open systems with emergent properties and transformational potential. A crucial corollary of complexity theory is that knowledge is inherently local rather than universal. Complexity science is inherently dynamic. It is concerned with the description and explanation of change (Byrne, 2005, 97)

McClellan has articulated what this interdisciplinary understanding of complex open systems can offer to a study of organizations. For leaders, a better attunement to the nonlinear dynamics and emergence of complexity in their own organization is no doubt helpful for all sorts of leadership activity: becoming more self-reflexive about their entanglement in the system, amplifying desirable emerging patterns, and anticipating surprising new turns. But the move to developing leadership strategy from complexity science must be approached with caution. The issues of clashing ontologies on the one hand, and power relations, politics and responsibility on the other, are easily left aside when one adopts a theoretical sensibility that recognizes neither.

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