

Editorial (8.3)

September 30, 2006 · Emergence

Jeffrey Goldstein

Goldstein J. Editorial (8.3). Emergence: Complexity and Organization. 2006 Sep 30 [last modified: 2016 Nov 26]. Edition 1. doi: 10.1002/emerg.10.17357.f5e987dc3318caf8e170ea0826d7fe45.

Introduction

Risking the claim of redundancy, I find myself again needing to express my amazement at just how rich this issue's contents have turned out to be. It's like a buffet for the mind offering wide-ranging 'dishes' of complexity approaches across an impressively diverse number of systems. And in each case complexity is used in a rigorous fashion to yield insights not forthcoming from more traditional approaches.

A case in point is our first article "Reconceptualizing chronic pain as a complex adaptive system." Here, chronic pain is understood in terms of a complex adaptive system with dynamics emerging out a set of nonlinear relationships. Indeed, interventions not taking into consideration the complex and nonlinear dynamics of the pain situation can lead to a worsening rather than an amelioration of the pain. The experience of, the etiology of, and the treatment of pain needs to be understood then in terms of systems embedded within other systems, co-evolving in a decentralized, loosely joined but nevertheless joined network.

The very title of the next paper "Designed emergence as a path to enterprise sustainability" contains what at first impression appears as an oxymoron, namely, "designed emergence," since emergence has been usually characterized in contrast to that which is designed. Elsewhere I (Goldstein, Forthcoming) have traced this dichotomization of emergence and design to Bergson's early emergentist writing, an antagonism which has proved to have staying power as the idea of emergence developed over the past century. However, the author of this paper is putting emergence back together through his discussion of the interrelationship of the governing principles of a company, its organizational design, the role of leaders, and the critical issues of sustainability and social betterment.

The next paper, "Management in R&D networks as complex systems: The case of European networks" emphasizes how technological networks, because they are by definition complex systems, accordingly need to be managed from several concurrent perspectives. The authors study 189 European institutions linked together through technological networks. As if that wasn't complex enough, there are in addition all the customers, suppliers, public research centers, policy makers, and other important nodes on the networks. Furthermore, the various components of the networks often possess conflicting preferences and objectives. One of the key conclusions confirms a crucial complexity idea, notably, that it is the lateral linkages which take on the coordination functions, not a centralized hierarchy.

Instead of focusing on organizational systems as networks *per se*, our next paper uses tools of complexity in understanding, as the title suggests, "Pharmaceutical discovery as a complex system of decisions: The case of front-loaded experimentation." Building on earlier work postulating that discovery of effective new pharmaceutical agents can be understood as an emergent process of innovation, this paper further explicates what exactly may be involved in this emergent strategy. The article describes front-loaded experiments which attempt to increase efficiency in the search process by a new way of assessing the critical initial stages of a given project so that there is a greater likelihood of improving the prediction of success of a particular chemical compound.

The next article, "Measuring leadership effectiveness in complex socio-technical systems," proposes understanding leadership as an organizational "meta-capability" in that the leader needs to manage the adaptive tensions between exploration and exploitation, performance and adaptation, and the short term and long term. The author evaluates various metrics for evaluating the successful navigation of these adaptive tensions. The author anchors his insights by an analysis of the large corporation NCR (National Cash Register).

The following article, "Emergence and community: The story of three complex adaptive entities" shifts the focus away from corporations to community-based organizations, namely, an association of nursing leaders, an organization based on the teachings of the Mussar movement in Judaism, and an urban co-housing community. The complexity notion of emergence is used to tie together the perspectives enunciated by the many leaders interviewed for this research, with the core idea of an emergent community of practice adding insight to how communities can evolve and adapt more successfully.

The next paper, "Learning at the edge—Part 1: Transdisciplinary conceptions of boundaries," explores the complexity construct of "boundary" as seen among a host of systems thinkers. The author provides a phenomenological analysis of published accounts of boundaries. Four main categories of the use of boundary emerge from the research: resident versus traveler; and healer versus competitor.

The next section of E:CO is our customary philosophy. The paper here, "On the importance of a certain slowness," takes as its

point of departure a call for the need to not only consider the fast and newness associations of complexity, e.g., the emphasis on flux, or sudden bifurcations, but also the issues of stability, enduring structures, in other words the “slow” aspects of complexity. Along the way the author offers a critique of those postmodern views of complexity in line with the fast version. Fast is associated with noise and slowness with information or meaning.

In the forum section we have another installment of “Adjacent Opportunities” from Ron Schultz (who, by the way, helped write some of the early He-Man cartoons!) in which he explores the opportunities that Jeff Post has made, and is making, through his unique management style that effectively blends both top-down *and* bottom-up approaches. This is followed by another entry from Carlos Puente who again playfully, but rigorously, uses the logistic map and its wonderfully graphic visualizations in order to push home certain key points about bringing peace into the world.

The book reviews in this issue cover works on complexity and organizational change, managing organizational creativity, “resonant” leadership, complexity in the public sector, and systems approaches to international relations.