Introduction: Complexity and Neo-Expertise

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Volume 10 marks an important milestone in the evolution of *Emergence: Complexity & Organization*: we've come to our 10-year mark which, besides expressing all of the creative contributions made by our authors, editors, reviewers, and readers, sends the clear message that this journal has proved not only its credibility but its status as a serious forum for the many facets of complexity science. Besides possessing the requisite expertise found in its staff and readership who have shown their commitment to keep it enduring, more importantly, its attraction for leading researchers, theorists, and practitioners is expanding in ways that could not have been foretold at its origin. In an age where complexity has become a new feature across a wide ranging host of systems, the importance of a journal that is willing to earnestly take on the difficult task of publishing multi-/cross-disciplinary, pluralistic, critical, accessible, and rigorous articles cannot be overstated. Indeed, even a brief look at any of the tables of contents making-up the issues of Volume 10, cannot but reveal how well *E:CO* is continuing to fulfill its mission of providing quality papers demonstrating each of these features.

During the ten years of *E:CO*'s life we have also seen considerable expansion in the mix of the content. Thus, not only have we seen the geography of readership and authorship widen, but we have also seen a shift to accommodate real practitioner-focused constructs and tools in addition to our more formal academic thrust. As we press forward, in all areas of complexity research, we need to recognize the importance of steering our perspectives towards making a real difference in the world. Following Gregory Bateson's famous definition of "information" as "a difference that makes a difference", *E:CO* aims to keep generating more and new information as complexity science meets real world challenges and opportunities.

In the first editorial of Volume 11 (which will be reproduced in the 2009 Annual), co-editor-in-chief Jeffrey Goldstein explores the usefulness of maintaining a degree of vagueness when it comes to both understanding and utilizing constructs from complexity theory. Conceptual vagueness turns out to be a positive thing because, rather than simply abstracting down to mere literal precision, vagueness, understood, e.g., in terms of the richness of a narrative, is of great help

in our interactions with complex contexts. This approach resonates with the eminent French physicist Louis de Broglie's words:

May it not be universally true that the concepts produced by the human mind, when formulated in a slightly vague form, are roughly valid for reality, but that, when extreme precision is aimed at, they become ideal forms whose real content tends to vanish away? (quoted in Cory, 1942, p. 268.)

To be sure, one of the most important aspects of philosophy with which complexity thinkers have grappled is no doubt the status and dynamics of human knowledge. This isn't just significant as a philosophical exercise. The value of 'experts' in decision making is dependent upon the kind and quality of the knowledge they have access to and can retrieve according to the different contexts within which they work. Given the vast role of internal and external consultants and other "experts", the expertise and know-how acquired via interacting with the unique properties that complex systems have, cannot be overstated.

If it is assumed that the system of interest, or the context of interest, is complex, or is the emergent result of underlying complex (e.g., nonlinear, feedback) processes, then there is no one description capable of capturing all the details required to make predictions about how the 'affair of interest' will unfold, or how our interventions might effect that 'unfolding'. Furthermore, as the study of complex systems is increasingly revealing, even a nearly perfect description may eventuate in an imperfect understanding, or at least, an understanding that is only useful for a certain length of time. Complexity science's appreciation for differences, or micro-level diversity, as the seeds of experiments in novelty on a macro-level, that is, an appreciation for how small differences can grow to dominate a complex system, implies that simply averaging out and thereby eliminating the affect of small changes (upon which much of reductionist science is founded), can no longer be seen as *the* appropriate strategy of understanding the dynamics of complex systems—that is for understanding biological, ecological and social systems. Complex systems are not just more complicated linear ones—they are different in kind not just degree. As a result, our best knowledge can be no more than approximate, time-limited, and contextually embedded. Approaching a 'complex affair of interest' from several or more directions, a theoretical and research strategy known as 'perspective-based pluralism', can be used in conjunction with critical reflection to synthesize a problem-

specific time-limited 'map', rather than overlaying an existing map and forcing-fitting the 'complex affair of interest' to that map.

If we reduce the notion of reductionist expertise to mean no more than overlaying a limited number of pre-existing maps known to the 'expert' on to a particular context, then we can begin to notice a type of *neo-expertise* that is more in line with the insights from complexity science. A 'neo-expert' is an expert in *custom* map-*making* (rather than just 'map-mapping'), who recognizes that potentially useful maps are not only those s/he's aware of. The word "making" in the previous sentence is most significant. The term highlights that a neo-expert is really a process and constructional expert—the process being the "mechanism" by which multiple perspectives are gathered, compared and contrasted, accordingly critiqued, and then synthesized to inform decision-making. This process also includes the other "mechanisms" in place which highlight how the understanding informing any decision-making is limited and that, consequently, implementation of any decision-taking must incorporate a recognition of when the usefulness of any particular 'synthesized' map is apt or is not. So neo-experts are not only concerned with the process of producing context-specific understanding, but also with the care that must be taken in applying such understanding in the real world. This still means that the neo-expert has a central role to play in complex problem solving. But rather than being merely the source of the relevant domain specific knowledge, they are there to bring the 'expertise' of the many organizational stake-holders together in a coherent fashion to facilitate the definition of the problem space, and the development of strategies to guide an organization, or department, or individual in a particular direction—a rather harder proposition than just supplying text-book like knowledge. 'Modernist Experts' do our thinking for us, whereas 'Neo-Experts' help us think for ourselves.

Some readers may think that our "neo-expert" is the type of consultant who "borrows your watch to tell you the time". This could not be further from the truth. As conceived, our neo-experts would bring a range of skills to a client organization, including:

- An ability to identify discontinuities in an organization's life-cycle;
- An understanding of the dynamics of organizational culture and politics;
- The ability to exploit the "wisdom of crowds" and to know when, and when not, it can be source of guidance; and
- Knowledge of tools and constructs to study complex processes.

Whereas "Modernist-Experts" attempt to replicate successful patterns (see all the context-blind endeavors aiming at so-called "best practices" and "benchmarking"), "Neo-Experts" attempt to experiment with, and only then generate *new* patterns (or behaviors) for each intervention whose success or lack thereof can only show ostensibly in an emergent fashion. The neo-expert may employ "modernist" expertise in the course of an intervention, but only in isolated pockets. These new patterns will be determined through close engagement with the client organization, and neo-experts will need to focus on the transfer of skills to their clients. As the organizational context is in continual flux, the "solution" must be continually monitored in case environmental changes nonlinearly render it impotent—or even dangerous. If the consultant or "expert" fails to provide the organization with these monitoring skills, the client will become dependent on him.

This concept of "neo-expertise" brings to light one of the major weaknesses of management or organizational consulting in general, and project supervision specifically. Many interventions are conceived as "one-shot" projects. The consultancy organization comes in, suggests some changes, these are adopted and the client presses on. However, the recommendations are invariably made within the context of a given business climate. Rarely are the assumptions underlying a corporate strategy regularly and formally tested. However, the neo-expert, with her focus on the context, is constantly butting up against these assumptions—questioning the efficacy of a strategy as soon as it is put into practice. While this may be seen as creating continuous instability, it is, in fact, recognizing the realities of doing business in the twenty-first century, and is bound up with the very appreciation of the ensuing small differences that may indeed go onto to be the differences that make the difference. These small differences are also differences in values which the systems thinker Gerald Midgley in this volume (see Ch. 25, p. 533) has pointed to as a crucial ingredient in implementing systemic interventions. Good neo-experts recognize that businesses and other novel hybrid organizational forms burgeoning throughout the world must evolve to survive and that evolution is a highly nonlinear, complex, context-dependent, and bricolage type of activity.

It is be tempting to propose a methodology that would systematically determine just how the neo-expert should go about this process of multi-perspective synthesis. However, there are an enormous number of ways to exploit pluralism, each with their own idiosyncrasies, strengths, as well as weaknesses, so we prefer to point

out that many good frameworks and methodologies already exist that can support the work of the budding neo-expert. Indeed, the pages of *E:CO* are filled with such suggestions. Trying to hone all this creative work down to a simple system type of list would leave us open to the charge of masquerading as "experts" in the "process of knowledge production". Yet, we still find it quite remarkable that these existing frameworks and methodologies have been largely ignored by the complexity community: see for example Jackson & Keys (1984); Flood (1995); or Midgley (2000). For example, complexity thinking and "soft systems methodologies" have a great deal in common. Indeed, our notion of the process-focused "neo-expert" has much in common with the Action Researcher (Wikipedia, 2009).

So does an increasingly connected world signal the death of the expert as traditionally conceived? Certainly not. There is still a major role for 'linear' knowledge in the development of strategies for the management of complexity. However, exploring complex problem spaces requires a different kind of expertise than what has traditionally been given priority. This neo-expertise is built on the skills to allow a group of stakeholders to 'emergently' arrive at a context-specific, limited but useful, understanding of their circumstances to enable them to act in order to achieve certain preferred outcomes more often than not. This facilitative role is very challenging as anyone familiar with the process of facilitation will tell you—one article discusses this process as midwifery (McMorland & Piggot-Irvine, 2000). It is an approach to the development of understanding, and decision-making that also has profound implications for how any organization may operate. Certainly, we have barely scratched the surface of these implications in this introduction. The traditional expert can still be a major contributor in this critical and pluralist process. The main change to their role is that their special type of knowledge is no longer regarded without question as the most important source of understanding in an evolving landscape of interactions and variations.

E:CO is honored to play what we hope is a significant role in the reformulation of such key concepts as context, knowledge, decision-making and expertise by taking into consideration new conceptualizations of nonlinearity, differences, complexity, and context. We believe it was these features of complexity science which Stephen Hawking was pointing to when he foresaw the 21st Century as the century of complexity.

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