

## Editorial: Diversity, difference and antinomy

December 31, 2007 · [Editorial](#)

Jeffrey A. Goldstein, [Professor Jeffrey Goldstein](#)<sup>1</sup>

**1** Adelphi University

Goldstein JA, Goldstein J. Editorial: Diversity, difference and antinomy. *Emergence: Complexity and Organization*. 2007 Dec 31 [last modified: 2016 Nov 30]. Edition 1. doi:

10.emerg/10.17357.9b57928ed8bd2d86a406db2d435ca446.

### Abstract

“Diversely to treat of matters is as good and better as to treat them conformably.”

-Montaigne, *Essays*

### Diversity of contents

I was struck with just how much this issue of *E:CO* spans a remarkable diversity of topics, perspectives, interpretations, and origins of our writers – even given our now firmly established standard in publishing variegated and heterogeneous content. I was also struck with another sort of diversity, namely, how much I disagreed with much of this same content but more on that later.

The Academic Section is a case in point of diversity of content. The Finnish organizational consultant Tuomo Kuosa extends applications of complexity constructs into three new “transdisciplinary” directions: Pentti Malaska’s funnel model of bifurcations whereby emergent seeds of possibility branch into diverse futures; John Naisbitt’s theory of “platforms” and “pieces” which drive socio-technical growth from the bottom-up; and the “energy-driver” theory of social change and emergence expounded by Harold F. Blum, Jeremy Rifkin, Steven Johnson, and others. This article crosses across an impressive body of different fields in the social sciences in order to link up economics and historical development.

Yet, the next article in this section is entirely different in focus and scope. The Indian professors A. Pundir, L. Ganapathy, and N. Sambandam demonstrate a new view of project management which goes beyond such outmoded models as the traditional one, the success factors model, the lean view, and even the by now passé systems model. In their place, the authors stress the need to finally include a recognition that today’s projects take place within complex systems and therefore need to incorporate full cognizance given to the characteristics of complex systems: nonlinearity; uncertainty; self-organization; emergence; and others.

## The first phase transition in content

Next this issue can be said to undergo a kind of phase transition as we switch to the Practitioner Section in which occupational therapy researchers Tina T. Champagne, Howard M. Saccomando, Janice K. Ryan and Ivelisse Lazzarini explore a nonlinear dynamical systems understanding of the spiritual dimensions of occupational therapy. This spiritual dimension addresses the issues of value, purpose, and meaning which frequently arise in persons undergoing multi-dimensional occupational therapy following upon trauma, injury, and illness. In this regard the authors examine the dynamical unfolding of “deep spiritual attractors” involved in our fundamental identities as humans in the world. I was particularly heartened to see their use of the phrase “self-transcendence,” a phrase that I have for many years been putting forth in my construct of “self-transcending constructions” as a more appropriate way of thinking about emergence than self-organization alone. Self-transcending constructions emphasize the transcendence of the past but through transforming the past in new ways in a Meadian way (see the excerpt from George Herbert Mead in the last issue of *E:CO*) that paradoxically changes the past as it transmutes it.

In the Practitioners Section, Alice MacGillivray, an organizational researcher operating out of Canada, presents the second of a two part series on “Phenomenography,” an interdisciplinary research method investigating different ways of understanding concepts such as boundaries, peripheries and edges. These latter three notions are crucial in complexity science so that greater insight into how we think about them no doubt yields greater insight in the dynamics of complex systems. The data for this article come from professionals studying knowledge management (KM) program amid distinct communities of practice. Research participants conceptualized boundaries (explicitly and implicitly) in four ways: Shape Shifter; Architect; Harvester; and Ethnographer. I’m not going to give away the punch line as to what these terms refer so the reader will just have to read it and find out on their own!

## The second phase transition in content

Then we go through still another phase transition as we enter the philosophical worlds of our Philosophy and Classic Complexity Sections. The Finnish social-psychologist Tapio Muhonen takes on some very freighted conceptual issues by interpreting Wittgenstein’s early (i.e., from his *Tractatus* period) view of language, and its relation to ontology and that in relation to Ilya Prigogine’s scientific ontology of complexity. Since there is a lot going on in this article involving post-modernist thought, nominalism, and assorted notions from the sciences of complex systems, careful reading is in order to glean its insights.

In a cognate philosophical vein, we are presenting as our Classic Paper an excerpt from the work of the Hungarian/English chemist and philosopher of science Michael Polanyi with a lucid introduction by Professor David Boje from New Mexico. Boje shows how Polanyi’s key notion of “tacit knowledge” was expressed in Polanyi’s rather early proposal for the idea of emergence

As an aside concerning Polanyi, it is not generally known that his seminal work, *Personal Knowledge* (Polanyi, 1958), was composed from his Gifford Lectures of 1951-52, the same series of renowned lectures held in Scottish Universities where earlier pre- and proto-emergentists had also given lectures on emergentist themes, e.g., William James, C. Lloyd Morgan, Samuel Alexander, and Alfred North Whitehead.

Moreover, it is also little known, as pointed out in the wonderful biography of the brilliant English mathematician Alan Turing by Andrew Hodges (1985), that Turing’s ground-breaking work in reaction/diffusion experiments, so important to symmetry-breaking arguments for Prigogine and later

complexity researchers, by conversations with Polanyi. It was indeed probably in response to Polanyi's quandaries about the origin of order in embryological development, that Turing wanted to specifically show how certain chemical reactions could exhibit pattern formation through the *breaking of initial symmetries*, a mathematically-based construct which went on to play a key role in understanding the emergence of order in phase transitions and self-organizing systems. Key to Turing's formulation was the presence of *nonlinearities* in his mathematical model and Dewel, *et al.* (1995), point out Turing's genius was to see that diffusion would play the counter-intuitive role of organizing the system in spite of the fact that it would usually play the opposite role of smoothing out any inhomogeneity.

## Diversity, difference, and antinomies

There is yet another aspect of the diversity of this issue of *E:CO* that I mentioned above, notably, my own divergence in outlook and understanding from much of what I read in this volume. That is, as I was reading this issue I became surprised about how little of what I was reading I was in agreement with. Of course, most of us, I presume, usually experience some sense of lack of concurrence when we read most anything. But in this particular case, it was more than *some*, it was most of it!

I want to be clear that I am not confessing this lack of agreement to jump off into any kind of critique. That not one of my responsibilities as one of the editors-in-chief of *E:CO*. On the contrary, I take this disagreement as one of the great things about *E:CO* which puts its money where its mouth is in insuring that complexity is presented in the enriching, pluralistic fashion it must be if it is to continue to be intellectually and practically productive. In fact, in my opinion, agreement is much too often a form of premature conformity that impedes complex systems from being complex. Now is not the appropriate place for me to describe my differences but rather I would like to say a few words about the critical role of difference. Here I am much inspired by the wonderful book new book *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies* authored by Scott Page (2007), Professor of Complex Systems, Political Science, and Economics at University of Michigan and Faculty Member at the Santa Fe Institute.

Using an agent based model approach, Page includes under the terms "diversity" and "difference" alternative perspectives, representations, and interpretations. Page finds that it is often the case that the "performance" of a run of simulations are better not with each agent programmed to be a better individual performer, but when there is greater diversity of agents with a similar degree of lower performance capabilities. From this he concludes "The best problem solvers tend to be similar; therefore a collection of the best problem-solvers performs little better than any one of them individually. A collection of random, but intelligent, problem solvers tends to be diverse. This diversity allows them to be collectively better. Or to put it more provocatively: *diversity trumps ability*" (his emphasis, p. 137).

Page emphasizes that he is claiming more than that diversity trumps homogeneity, rather, there is the much stronger claim that in general diversity trumps ability as well if we accept the following conditions:

1. No individual problem solver always locates 1. the global optimum;
2. All the problem solvers are smart enough to 2. record or list or recognize where and what they have already located (this is the definition of "smart" for his agents);
- 3.

Any solution other than the global optimum 3. is not a local optimum for some nonzero percentage of problem-solvers (i.e., there will be someone to find some improvement over a found “solution”), and;

4. The initial populations of problem-solvers 4. need to be large enough.

Another surprising conclusion from Page’s research is that tests for abilities as a condition to be good enough for a problem solving endeavor might actually prove counterproductive or, as he puts it, “We can find it in Darwin: *selection reduces diversity*... That’s why groups of the best need not be the best groups” (p. 671).

To be sure, sometimes differences can be so extreme that an opposition, quandary, antinomy, or even an impasse to results. Accordingly, it might be thought appropriate to place some limit on how great differences ought to be in order to keep them from growing without limit. However, as the logician and philosopher Willard van Orman Quine (1966) once put it, “One man’s antinomy can be another man’s veridical paradox, and one man’s veridical paradox can be another man’s platitude” (p. 14). For example, Quine classified Bertrand Russell’s set theoretical paradoxes as genuine antinomies and pointed out that they led to a great deal of creative output, e.g., challenging such basic principles of logic as class existence. Similarly, the logicians Gary Mar, Patrick Grim, and Paul St. Denis (1998), pointed to how the Richard Paradox inspired Kurt Gödel incompleteness theorem, the Liar Paradox inspired Alfred Tarski’s work on meta-languages, and the Berry paradox inspired Chaitin’s work in using algorithmic complexity theory to a different understanding of mathematical incompleteness.

All this talk of diversity and difference has left out one more crucial meaning of “difference”, namely, that of *making a difference*. Here we can fruitfully turn to Ron Schultz’s Forum on Adjacent Opportunities in this issue which is about getting clear about the priorities driving our decisions. As usual with so much of what Ron writes, what he says hits you in the mind as well as the heart. Consider this quote from an inventor who supplies incredible tools to improve the quality of life for the sightless and others in similar straits is chock full of “difference”: “What we’re doing is looking for something no one else is doing, where the technology is pretty well developed, where someone has already developed it at great expense, but where that extra little bit takes it to the people who can actually use it.” That extra little bit sounds like complexity to me — Bateson’s masterful definition of information as a difference that makes a difference. And if we aren’t making a difference that makes a difference in the quality of ours’ and others’ lives, really what’s the point? There are themes here redolent of the self-transcendence so inspiringly related on the article in this issue on the dynamical view of occupational therapy and self-transcendence.

There are also two very interesting book reviews. The first is on a book that explores what struck me as two terrifically powerful phrases, “harnessing collective wisdom” and “co-laboratories in democracy.” Let me just dream a little here: wouldn’t it be “something else” if we could see a bit more of both in Washington and London and the other great capitals of the emerging world, or is that asking for an oxymoron? But hey, what did Quine say above about the potential creative role of antinomies? And just to make sure that we don’t forget the difficult realities we face in our everyday world of organizations, the second review looks at a new book on managing people in the diverse contexts we live: individual (including interpersonal); organizational; international; corporate; knowledge; technological; and change. If we can’t make a difference in these varied contexts than we better stop for a moment and reflect and ask Ron’s question again about the priorities that shape our imagination and the actions coming out of it.

In conclusion, *E:CO*’s editors, at all levels, are decidedly not in the role of placing their imprimatur on the contents of the journal. That is surely not what *E:CO* stands for. Indeed, if it were, *E:CO* would then soon

assume the ranks of all the multitude of journals out there which are mostly deadly to read. One source of their deadness is they make it nearly impossible to get published if anything interesting is said or concluded at all. “Interesting” entails some measure of disagreement, at the very least in the sense that a new idea confronted by a reader is not yet in agreement with the reader’s already formed understanding. I disagreed with a lot of what I read here, but I also learned a great deal in the process.

## References

- Dewel, D., Borckmans, P., De Wit, A., Rudovics, B., Perraud, J. J., Dulos, E., Boissonade, J. and De Kepper, P. (1995). “Pattern selection and localized structures in reaction-diffusion systems,” *Physica A*, ISSN 0378-4371. 231: 181-198.
- Grim, P., Mar, G., St. Denis, P. (1998). *The Philosophical Computer: Exploratory Essays in Philosophical Computer Modeling*, ISBN 9780262071857.
- Hodges, A. (1985). *Alan Turing: The Enigma*, ISBN 9780045100606.
- Page, S.(2007). *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*, ISBN 9780691128382.
- Polanyi, M. (1958). *Personal Knowledge (composed from Gifford Lectures 1951-52)*, ISBN 9780415151498 (1998).
- Quine, W. V. (1966). *The Ways of Paradox and Other Essays, Revised Edition*, ISBN 9780674948372 (1976).