Guest editorial: Chaos, complexity and conflict

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Abstract

Introduction

This special issue of Emergence: Complexity and Organization (E:CO), “The Integration of Principles from Complexity Science & Conflict Management” is the outgrowth of the International Conference on Chaos, Complexity and Conflict hosted by The Werner Institute for Negotiation and Dispute Resolution at Creighton University. This first—of-its-kind-conference took place over 3 days on the Creighton campus in Omaha, Nebraska, and brought together 71 professionals and practitioners from various fields such as academia, organizational development, school administration, environmental advocacy, healthcare administration, conflict resolution, law, and complexity science to discuss the relationship and integration of principles from complexity science and conflict management.

The gathering represented a wide range of diverse cultures and backgrounds, and included individuals from across the United States and Canada, as well as from nations as far away from Omaha as Australia and China. The vision was to create dialogue involving the best thoughts and insights regarding conflict and complexity, and to prompt further investigation towards the application of complexity science principles into the field of conflict management.

The initial premises on which this conference was developed were:

- Useful frames are emerging from the areas of complexity and living systems dynamics that can improve the effectiveness of traditional ADR approaches.
- There is increasing complexity in organizations and society that requires new approaches for addressing conflict at both the individual and systems levels.
- A mindset of linear determinism blocks creative approaches to conflict engagement and limits option generation and robust decision-making.
- Emerging practices for working with groups are congruent with complexity principles and can be integrated with traditional approaches to conflict resolution.

The Werner Institute structured the conference to give representatives from the fields of complexity science and conflict resolution an opportunity to share their expertise and understanding of the principles they study. The presentations were interwoven with ample time for dialogue and discussion among participants.

The conference began with an emphasis on understanding complexity theory principles. As the program proceeded, it integrated the concepts of conflict management into the conversation. The first substantive presenter was Sidney Dekker, Professor of Human Factors and Aviation Safety, and Director of Research at Lund University School of Aviation, in Ljungbyhed, Sweden. His talk highlighted the concepts of complexity, human factors and accountability. He provided cases illustrated with colorful stories of investigating human error using a systems perspective. The various stories made a case for moving from “succor to science” as a means to address human error. This presentation laid an appropriate foundation for the conference and provided direction for the subsequent days.

Much of the early proceedings focused on the need, as identified by many of the attendees, to understand the proper use of complexity science terms and strategies, and applying them appropriately to the work of conflict management practitioners. Through presentations and dialogue the conference proceeded to a greater understanding of complexity science principles, and introduced the practitioner’s view of complexity from the eye of conflict management professionals. The facilitated discussions among the representatives of both fields of study regarding the appropriate integration strategies created a strong desire for a deeper understanding of both paradigms. Within this special issue of Emergence you will find a collection of articles that will assist with the development of this understanding. These articles were either presented at the conference or were developed by
Stephen Guastello’s article, “Chaos and Conflict: Recognizing Conflict” provides an introduction to the complexity science principles he deems essential for understanding conflict resolution through a lens of nonlinear dynamical systems theory. The article, like his presentation at the conference, provides a framework for conflict resolution practitioners and creates a foundation for future exploration of the application of key complexity principles.

Deborah Sword’s article discusses the utilization of these principles in terms of conflict analysis. “A Complexity Science View of Conflict” chronicles the past ten years of her research on this subject and the evolution of conflict analysis in that time using the framework of complexity science to create conflict mental maps. She illustrates her perspective through three public conflicts that were analyzed during the research for her dissertation in this area of study. Both Guastello and Sword effectively provide a glimpse of the dialogue that dominated the conference held in June and highlight the necessity of keeping these conversations moving forward.

The four additional articles, written especially for this issue, provide insights into specific contexts where the concepts of complexity science are used to assist in the management or resolution of conflict. Gregg Walker’s, “Tackling the Tangle of Environmental Conflict: Complexity, Controversy, and Collaborative Learning” focuses on the utilization of collaborative learning to resolve issues that arise in environmental conflicts. Walker illustrates how the multiple parties, perspectives, and abundance of dynamic variables in environmental conflicts create the conditions for utilizing complexity science principles in the resolution process.

The articles submitted by Jason Hu and Sergey Samoilenko illustrate the importance of understanding the use of complexity science principles in examining and managing conflicts within organizations. Hu’s article, “The Law of Requisite Cognitive Capacity in Human Communication, Conflict Resolution and Cooperation Solicitation” is a call for understanding the importance of communicating efficiently. He utilizes Jaques’ theory of cognitive capacity to effectively articulate his points.

Samoilenko’s “Fitness Landscapes of Complex Systems: Insights and Implications on Managing a Conflict Environment of Organizations” looks at the complexity of organizations as they enter a transformation process. He suggests, “by affecting the structure of an organization during the process of organizational transformation, its behavior and conflict environment can be controlled.” His hope is that the paper will lead to better insights into the strategies that will allow for the effective management of conflict within organizations facing change.

Gregory Jones provided an article that examines the relations between pro-social behavior and the heterogeneity of degree of social networks. His article, “Heterogeneity of Degree and the Emergence of Cooperation in Complex Social Networks” presents models that demonstrate the effect heterogeneity of degree has on society’s ability to promote cooperation and pro-social behaviors. He concludes his article with the results the models portray and the ensuing implications for the practitioner engaged in conflict management.

The integration of the study of conflict with the study of complexity has relevance across a wide variety of contexts. The classical paper included in this issue, “Is Adaptability Enough”, by Geoffrey Vickers illustrates the case of social scientists who have been calling for the integration of this research for many years. The conference hosted by the Werner Institute is a new beginning for this important conversation in terms of applying complexity science to conflict management, yet much more research and engagement is necessary to better appreciate the potential applications of the intersection of these disciplines.

We have enjoyed reading and editing the results of the Werner Institute’s initiative in bringing together interdisciplinary fields of study. The magnitude of the Werner Institute’s creative effort must be acknowledged. Not only were two interdisciplinary fields given the opportunity to achieve inactive dynamics, but also there was a cross-fertilization of scholars and practitioners across disciplinary lines. The conference fitness landscape included the experience of complexity science and conflict management academics meeting each other, and also academics met people professionally interested in their research, and practitioners had input into what should interest the academics. It was truly plowing ground ripe for seeding, and we are delighted to make those insights globally available. We also had the benefit of an exciting partnership with Emergence, and its editor Kurt Richardson. When we approached him about an edited volume of conference papers, his enthusiasm inspired us as much as the conference presenters and attendees did. The presenters also were uniformly gracious in turning their presentations into papers. We thank them all.

It is our pleasure to leave you with the following websites, which represent a small corner of the complexity science universe. They will guide you in your investigation of these fields and allow you to stay connected with the research that is produced:
- http://law.creighton.edu/wernerinstitute/complexityconference/
- http://www.dynamicsofconflict.iccc.edu.pl/
- http://complexityandconflict.ning.com/ (email bryanhanson@creighton.edu for invitation to join)
- http://www.santafe.edu/
- http://www.societyforchaostheory.org/
- http://www.comdig.org/
- http://www.hsdinstitute.org/
- http://www.plexusinstitute.org/
- http://www.ibi.ucalgary.ca/
- http://www.icore.ca/research.htm