

# Editor's introduction (7.1)

March 31, 2005 · Editorial

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Allen P. Editor's introduction (7.1). Emergence: Complexity and Organization. 2005 Mar 31 [last modified: 2016 Nov 23]. Edition 1. doi: 10.emerg/10.17357.73ee584a37a21ca8c7625e1a3d84c919.

## Introduction

This issue of *E:CO* is devoted to the absolutely vital issue of how our new acceptance and understanding of complexity affects the knowledge we have, and the basis that this provides for any policy or intervention that is aimed at 'improving' the future. Since there is already an excellent editorial written by the guest editors, which sets the context and contributions of the different papers, here we shall simply reflect on the overall origins and implications of complexity and the way that this must lead to a major revision in our approach to policy and intervention.

Complexity is really a recognition of the fact that all evolved and evolving situations of the biological, ecological and social realm embody not only the apparent structure of a given moment, but also undefined, underlying micro-diversity and processes that can provoke further structural change. In other words, our 'knowledge' about a situation at any moment is based on a particular vocabulary reflecting an adequate 'description' of what is there at that moment. It is not an explanation of how or why it came to be like this, and can neither predict what will happen, nor what the effects of any particular policy or intervention must be. This is because any set of words used to describe the situation is only a particular subset of all possible realities, and the underlying micro-diversity of its elements will necessarily carry aspects and reflect dimensions and attributes that are beyond the current description. Complexity therefore recognizes the necessary incompleteness of any description, and its necessary inadequacy as a basis for action. This defines a real fault line between academics and practitioners. Academics can, if they choose, achieve professional recognition and success while spending all their time discussing and arguing about the 'correct' description of particular systems and situations. Of course, in the natural sciences, such a description could lead to the identification of unchanging, and universally valid natural laws that could be tested through repeatable experiments by any other person anywhere. But in evolved biological, ecological and social situations, this is not the case, since the only examples are contextually, contingently evolved complex systems, where repeatable, transferable experiments of verification cannot be conducted.

Intervening in complex systems therefore necessarily involves some degree of experimentation and self-organization. Policy, management and interventions that have to be made by practitioners may get ideas from the 'knowledge' of current academic descriptions and theories concerning particular situations. However, their interventions will still really be experiments, either testing the possible stability of a given description, or more probably exposing its instability and revealing unexpected consequences and new issues and problems. In many ways therefore, practitioners are really at the cutting edge of research, in that their actions constitute experiments on their particular situations and contexts. However, they do not really have the time to gather and reflect on these different experiments, and this opens the way to an academic activity that has been called Mode 2 research, which is a post-rationalization, a classification and recognition of patterns within the diverse evidence that could emerge from practice. In some ways this therefore will represent the best we can do to provide knowledge about our changing world, not as a predictive basis, but rather as a necessary input to management or policy making experiments that will be carried out.

This underlines the importance of complexity in the real world, as well as the importance of bridging the gap between the realities of academics and practitioners if we are to improve policies, actions and interventions in our flawed societies, organizations and institutions.