

Critical Review of D. Colander and R. Kupers (2014) Complexity and the Art of Public Policy

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The authors have made a good attempt to describe the potential applicability of the complexity framework to understanding and addressing public policy issues. First, the book starts with the description of the image of two mountain peaks with the higher one being where the complexity frame is, whereas the lower mountain is where most traditional economists and public policy experts have been stuck. The book argues that while traditional economists tend to frame policy discussions between two polar options – either opting for the market or relying on the government – a more efficient solution should involve both the market and government acting in a symbiotic manner.

The book then presents an interesting case of Drachten, a small town in the Netherlands, whose government decided to implement the idea of *shared space*, i.e. a notion of the complexity frame, under which a major intersection now operates without traditional regulation attributes such as traffic lights, stop signs, or even patrol police. The authors argue that it took the local government to listen to Dutch urban planner Hans Monnderman and take his “shared space” ideas into consideration.

When criticizing traditional economists, the authors argue that the problem primarily lies in macro-economics and theory, since the applied micro-economic field has already been migrating from the assumption of rationality, linearity and static equilibrium over a number of decades by now (Coyle, 2014). Another argument raised throughout the book is that it is those who are free market supporters are generally closer to the complexity frame than otherwise. Complexity is loosely equivalent to pure *laissez-faire* but also including the government, which acts not as a planner or controller, but rather as a naturally equal partner with certain institutions.

The authors recognize that when the government is solely responsible for providing solutions to coordination problems, it often undermines individual creativity. Therefore, the government should foster bottom-up solutions to its everyday policy issues (chapter 3). However, the problem with their reasoning becomes evident as the authors suggest in the following chapter that “parenting” should be the primary role of the government in the complexity frame, and thus the only true alternative option to top-down government control is the parenting equivalent to the complexity approach advocated throughout the book: a **laissez-faire activist approach**, with as few direct rules as possible. The authors should carefully define the role of government – whether an equal partner, or a “parenting” one.

Complexity science describes the notions of fractals, replicator dynamics, and basins of attraction and path dependence, which are mostly ignored by equilibrium models (Wilson, 2014). The outcome of policy implementation can hardly be predicted, thus it requires a cautious and step-by-step experimental approach. The French postal service worked with Icosystem, a consultancy company that had extensively utilized the complexity approach to its operations, to plan delivery routes for its numerous postmen. First, a computer algorithm had to be in place so that the most time efficient route could be found. Second, a postman would then assess the route provided by the computer and suggest an alternative, if deemed necessary. This refined data went into another algorithm, which would generate new routes based on the postmen’s preferences. Thus, this entire process and computer algorithms are evolutionary, as variation-and-selection procedures had been in place to develop more time-efficient alternatives for postmen. While the authors seem to recognize evolution in this particular case, they failed to include evolution into their discourse in other respects. Evolution-based training is not even included into the list of transdisciplinary curriculum that they suggest.

The term **“complex adaptive system”** as applied with regard to economy is quite ambiguous. The question that requires clarification is whether it refers to a system of agents that behave in an adaptive way, or a system as adaptive as a whole (Wilson, 2014). While this makes a crucial difference in evolutionary theory discourse, complexity theorists are generally unaware of this distinctive difference, which is the reason for its ambiguity.

Another point of criticism is related to the earlier case of Drachten. While the notion of shared space is a clear manifestation of complexity theory in practice, it is also obvious that this idea suffers from its very limited applicability and can hardly be replicated into a larger number of cases, e.g. New York City. Furthermore, while the “shared space” idea, as well as the complexity frame as whole, may be successfully implemented in some parts of the developed world, it is unlikely to be the case in the majority of developing nations – it would be too ambitious to assume the symbiotic nature of market and government co-existence.

While complexity policy narrative and intellectual frameworks have been sufficiently provided, the book generally lacks specific examples of complexity policy implementation (Squazzoni, 2014). With the exception of the Drachten case, the book does not include any practical cases that would demonstrate complexity policy applicability. Reading this book alone may lead to the conclusion that complexity is purely an intellectual and theoretical concept. The authors should probably try to develop a more **systematic report** on concrete cases where the complexity frame can be implemented.

The lack of a systematic approach to addressing complexity theory was also raised by Mukul Asher^a. The authors still need to analyse the theory in a more comprehensive manner. For example, the authors argue that as the market and government operate in a symbiotic manner in the complexity frame, many more new institutions such as NGOs, semi-private and private organizations could be established: at the private level private organizations would increasingly act as state organizations, while at the government level state organizations would operate more as private entities. While this is appealing, the authors still need to describe 1) what conditions would be favourable to this kind of symbiotic operation; 2) what sectors are more likely than others to see this symbiosis implemented, e.g. this may better apply to public procurement vis-à-vis defence, or public infrastructure development rather than secondary education; 3) explicit short-term and long-term measures necessary to make this symbiosis successful.

As the last point, the complexity frame as proposed is extremely difficult from the viewpoint of **operationability**. While criticizing traditional scientific models for their inability to offer a complete, but rather a “half-true” picture, the authors admit that the complexity frame would not lead to definitive policy conclusions either. Although this still may be acceptable in theory, such a proposition is unlikely to bring any meaningful practical gains. The question that still remains open is this: how do we address particular policy issues in practice?

In conclusion, D. Colander and R. Kupers tried to apply the complexity frame to public policy. It appears that this has been more successful so in theory than in practice. However, even from the theory standpoint, the complexity frame is not likely to lead to any substantial paradigm shift in the near future. Conventional economic theories, despite all their possible shortcomings and limitations, do provide a more or less acceptable and useable measurability and operational tools, enabling a policy expert to draw specific policy conclusions and offer recommendations. Thus, the role of complexity science should not be overestimated. More systematic application and specific implementation cases should be included into discourse.

^a M. Asher is a professor at Lee Kuan Yew School of Public Policy (NUS), who teaches Economic Perspectives in Public Policy (PP 6704) to PhD students, among others.

Reference

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