

Imagining a Complex World

Science, Order and International Relations

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Abstract

How order is understood has been a central preoccupation of international relations theory. Within the Western imagination, order, banishing chaos, emerged from the Scientific Revolution and the Enlightenment as a knowable and calculable concept. Order became a known entity; it *is* the rational world. The irrational, that which didn't fit into neat delineations, was to be shunned. The resultant scientific method came to *represent* a reductionist, linear, and predictable outlook. Although it subsequently stepped down from its positivist heights, this Newtonian paradigm continues to inform (whether in opposition or in support) theory construction within social sciences, and, by extension, international relations theory. However, for over a century the sciences, divorced from the social sciences, have moved beyond this paradigm, with considerable attention being directed to the non-linear sciences. From this family of new sciences, complexity theory, drawing on and displacing chaos theory, has emerged over the last two decades as a genuine paradigmatic alternative.

This thesis argues that the incorporation of complexity theory at the meta-theoretical levels offers the opportunity to reconsider ontological and epistemological assumptions within the study of global politics. In detailing the presuppositions that best capture a complexity worldview, it is argued that complex adaptive systems, like the international system, exhibit emergent properties. Irreducibility, sensitivity to initial conditions, and self-organisation are shown to be central to comprehending how complex systems evolve, adapt and maintain high-energy far-from-equilibrium processes. Conversely, it is argued that dominant rationalist-based theories of international relations continue to seek out theories of natural equilibrium, which often reflect a transference of the Newtonian paradigm via a neoclassical economic ontology. Instead, it is argued that the international system should be viewed as a series of nested and overlapping complex adaptive systems that contains significant points of attraction, the most recognisable being the state. Moving towards an acceptance of the impact of the non-linear sciences at the meta-theoretical level will press the importance of intuition and interpretation to theories of international relations. Moreover, theories that absorb this commitment will more easily escape accusations of either irrelevancy for lacking a scientific base or of suffering from 'physics envy', in its traditional guise, because of its scientific base.

Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Jonathon Louth and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

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SIGNED: _____ DATE: _____

Acknowledgments

Some things take longer than expected. The words that follow have slowly evolved into a discernable whole, over a time period in which I have completed a variety of tasks. During this time I have found employment as research associate through to lecturing large and challenging courses. I spent a good deal of the early years working shifts in a blue collar job and then found myself, in the later years, working for the government as a Ministerial advisor. I even found time to complete my teaching qualification. Through it all, the thesis has slowly simmered, the ideas forming the vast web of interconnections that follow. Yet, if it was not for the support of a considerable number of unique and incredibly supportive individuals the project would have perished quite some time ago.

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For Mary and Eli