

Economy of Nature

A Genealogy of the Concepts 'Growth' and 'Equilibrium' as Artefacts
of Metaphorical Exchange between the Natural and the Social Sciences



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I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Jeremy Walker

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Abstract

Presently, the more or less global political consensus is that the primary task of government is to perpetually maximise a quantity called 'economic growth'. Given the decline of 'socialist' models of industrialisation, the economic consensus is that economic growth is best achieved through the deregulation of markets, industry and trade, as free markets are self-regulating institutions that automatically and efficiently optimise growth through their tendency to reach 'equilibrium.' Another word for this consensus might be 'neoliberalism'.

This cosy situation, however, is increasingly under challenge from the recent transformation of global warming from a deniable proposition to a clear and present danger. As ecologists and earth scientists have long argued, global warming (an unforeseen side effect of what was called the 'energy crisis' in the 1970s) is just one of many aspects of a generalised global ecological crisis. The biosphere, environmentalists tell us, is radically 'out of balance'. Given this impasse, it appears that the science of social systems (economics) and the science of living systems (ecology) are incommensurable.

This incommensurability is the starting point of the thesis, which seeks to provide a genealogy of the concepts of equilibrium and growth as they appear in the claims of both disciplines to represent 'hard' science. Drawing from debates in the philosophy of science, studies in the history of ideas, the anthropology of technology, and political economy, the thesis charts the mutual exchange of metaphors and analogies between the natural and the social sciences, and traces a surprisingly parallel trajectory in the separate histories of economics and ecology. Beginning with early historicist and organicist conceptual frameworks, both sciences embraced 'mechanism' in their bid to attain the mantle of Science.

For both sciences, the attainment of this status was associated with the incorporation of the language of energetics and an insistent identification of 'equilibrium' with the central scientific object of inquiry, 'the market' and 'the ecosystem' respectively. What is ironic in these claims is that the acceptance of the machine metaphor effectively screened out the study of actual machinery from the pure states of nature called 'the market' or 'the economy.' This history is taken up to the climactic moment of the early 1970s, when, it is argued, the ontological foundations of ecology and economics collided. This is the moment from which the political discourses of neoliberal globalisation and global environmental crisis both date, and since then we see the rise of hybrid discourses that attempt to address and overcome the deep contradictions of disciplinary specialisation.

The thesis concludes with a brief discussion of the implications of this conceptual legacy, and in analysing the interactions of the 'new ecology' and the 'new economy', offers suggestions as to why what appeared in 1971 as a fundamental and obvious contradiction between 'growth' and 'equilibrium', no longer attracts debate.

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