THE FOUNDATIONS OF NON-EQUILIBRIUM ECONOMICS, edited by Sebastian Berger. London, UK and New York, USA: Routledge, 2009, xiii + 199 pp., ISBN 978-0-415-77780-3.

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Since the late 19th century, economics has mainly been a theory of equilibrium. Starting with Canard, Jevons, and Walras, a view of microeconomic processes being in or at the least directly headed towards some sort of abstract equilibrium has come to dominate the scientific debate and the usual curriculum of teaching economics – very much to the grief of Thorstein Veblen and all subsequent generations of heterodox economists. Although their critique has become highly elaborate at the theoretical, mathematical as well as the empirical level (Mirowski 1989, and Foley 1998), the firm grip of the standard equilibrium models persists. However, the tradition of critical reception of equilibrium models and the development of alternative approaches is a strong and rich one and goes back to the dawn of the very first equilibrium models. It is this tradition, its history, its particular strengths and the richness of its concepts, more concretely the concept of Circular Cumulative Causation (CCC) that is the focus of the collection entitled *The Foundations of Non-Equilibrium Economics*.

CCC is a subject that the editor, Sebastian Berger, has a special interest and expertise in. Going back to Gunnar Myrdal and Nicholas Kaldor and possibly even to Thorstein Veblen, CCC is the concept of cumulative reinforcement in social and economic systems, and thus clearly a force very different from the scenic models of general equilibrium. What is more, it is "an empirically oriented heuristic [...] to detect and specify critical processes, vicious circles and cumulative crises of socioeconomic systems" (Berger and Elsner 2007). As the editor states, it is able to explain aspects well beyond the range of the standard equilibrium model. "Such aspects include economic growth, technological change, business cycles, socio-economic and ecological change and so on. CCC theorists, furthermore, reject the abstract formalism of the neoclassical model for its lack of empirical grounding. [...] Several currents in CCC theory exhibit strong empirical research interest in economic disparities, social costs and economic crises that are not perceived as minor accidental deviations from the normal 'optimal' case but as major and systemic patterns worthy of research in their own right" (Berger 2009). *The Foundations of Non-Equilibrium Economics* succeeds in bringing these currents that are more focused on empirical research (represented by the contributions by Toner and Butler, Hayden, and Berger and Glavin among others) together with other more theoretical ones (e.g. the contributions by O'Hara, Berger, and Hall and Whybrow).

The first chapters present an essentially Kaldorian view on CCC: McCombie and Roberts (Chapter 2) provide a comprehensive theoretical and empirical review of the Kaldorian theory of economic growth and increasing returns in contrast to the neoclassical equilibrium view. Toner and Butler (Chapter 3) add a (also Kaldorian) case study of the economic development of Japan and other East Asian economies. Holt and Pressman (Chapter 5) review Kaldor's policy implications.

Three chapters take a comparative approach of different theoretical views of CCC: Argyorous and Bamberry (Chapter 4) study the use of the theory of stages in economic development in Kaldor's and Myrdal's approaches to CCC. While Kaldor embraced the analysis of different stages of development governed by different kinds of dynamics, this approach was rejected by Myrdal. O'Hara (Chapter 6) compares the theories of Myrdal and Kaldor with respect to CCC in detail. Berger (Chapter 7) studies the development of the modern theory of CCC of Myrdal and Karl William Kapp and outlines the differences to the approaches of Veblen and Kaldor.

Three chapters presenting three very different issues that lie beyond the explanatory capability of the standard equilibrium theory demonstrate the analytical range and richness of CCC: Hayden (Chapter 8) studies the use of the Social Fabric Matrix and CCC in the allocation of funds in the Nebraska school system. Berger and Glavin (Chapter 9) analyze the economic aspects of the ecological disaster of salmon fisheries, and Semonova (Chapter 12) discusses the emergence of money in the ancient Sumerian civilization.

Forstater and Murray (Chapter 10) study the influence of the Classics (in particular Adam Smith, Karl Marx and David Ricardo) on CCC in modern Post Keynesian theory especially the theories of Luigi Pasinetti and Edward Nell. Hall and Whybrow (Chapter 11) discuss early notions of CCC in the writings of Charles Sanders Peirce and Thorstein Veblen.

Set out to bring different traditions of CCC theorists together and to revitalize the non-equilibrium approach to economic research and teaching, *The Foundations of Non-Equilibrium Economics* has at least succeeded in providing the scientific community with a comprehensive review of the state of the art of using CCC as a very powerful tool of economic analysis. Although a certain realistic skepticism is in order, we may hope that this collection contributes to the emergence of a broader view on reality in economis.

References

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