Darwin's Conjecture: The Search for General Principles of Social and Economic Evolution by Geoffrey M. Hodgson and Thorbjorn Knudsen. University Of Chicago Press. 2010. Cloth: ISBN 13: 978-0226346908, Hardcover: ISBN-10: 0226346900 $45.00, 304 pages.

Ever since Veblen first asked the question "Why is economics not an evolutionary science?" in 1898, his followers have sought to answer to this query. As an increasing number of economists have begun to question the preconceptions of economic theory, there has been a need to provide a satisfactory foundation for evolutionary economic theory based on the work of Charles Darwin. The main purpose of this book is to show how the core Darwinian principles of variation, selection, and inheritance (replication) apply to social evolution. This book builds upon the insights from contemporary work within the evolutionary framework and will be an important reference work as economic theory advances in the coming decades. While providing this foundation, the authors also address the many abuses, misuses, and misunderstandings of Darwinian theory. For example, the authors discuss at length the Lamarckian doctrine whereby characteristics are genetically inherited that is often put forth as an alternative to Darwinism.

Most scholars are familiar with the term *social Darwinism* and think of this as the application of Darwin within the neoclassical economic analysis of competition. The authors debunk *social Darwinism* and provide a precise understanding of the notion of competition in the economic sphere. As the authors explain, in nature, the unfit members are eliminated and some of the specie are better adapted than others; however, this does not necessarily lead to overall efficiency or systematic improvement of the species. In the social realm, though some would argue that Adam Smith's notion of an "invisible hand" represented an advancement in social thought in the eighteenth century, it does not mean that society's present-day institutions represent any sort of optimal outcome of competitive forces. As we have seen in the recent financial crisis, just because derivatives based on mortgage-backed securities are created does not mean that they lead to greater efficiency in the financial system and indeed can promulgate financial instability and collapse.

As the authors note, we live in a world of complex systems where outcomes are not willed by any entities and system properties do not correspond to those of any single entity. The key to the authors' argument is an understanding of how variety is generated and replenished in a complex social system (variation), how information concerning adaptive solutions is passed from one social entity to another (inheritance or replication), and why some social entities are more adaptable than others (selection). In the social sphere, these Darwinian principles apply not to individuals, but to the culture, institutions, and organizations of society. Obviously the individuals are important, but they are not the utility-maximizing economic agents devoid of any habits and inheritances found in the main stream of economic analysis.

The book concludes with a discussion of a future research agenda utilizing the Darwinian principles. In the past several decades, transportation and communications have been revolutionized by the speed of transmission and the scale of information. Many industries have been directly impacted including financial firms, record companies, and publishers, to name a few. An analysis of these changes is

ripe for the Darwinian approach and the authors hope that empirical studies of these industries will find the theoretical framework they provide useful.

An evolutionary foundation is necessary if economics is to advance and if the cohesiveness of modern society is to be maintained, especially in an increasingly complex society where technological change permeates the whole of society. Though the evolutionary approach provides a better basis for economic theory than the sterile world of neoclassical statics and dynamics as expounded by the Paul Samuelson differential equation system approach, the authors admit that the mathematical study of evolutionary dynamics in heterogeneous populations is of great importance and is largely unexplored territory.

As one might expect, most of the book focuses on clarifying concepts and refining definitions rather than examining empirical evidence. The book includes a glossary of terms that the reader will find very helpful. The authors should be commended for their efforts and it is hoped that this book will help stimulate empirical research to substantiate the evolutionary theory they set forth.

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