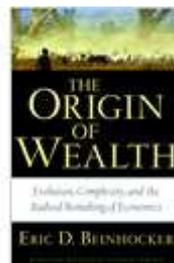


Observatoire du Management Alternatif
Alternative Management Observatory

Fiche de lecture

The Origin of Wealth
Evolution, Complexity, and the Radical Remaking of Economics

Eric D. Beinhocker
2006



Book cover for
North America

Guo BAI - Mars 2009
Majeure Alternative Management - HEC
2008-2009

Genèse de la fiche de lecture

Cette fiche de texte a été réalisée dans le cadre du cours « Histoire de la critique » donné par Eve Chiapello au sein de la Majeure Alternative Management, spécialité de troisième année du programme Grande École d'HEC Paris.

Origin of this review

This review was presented in the “Histoire de la critique” course of Eve Chiapello. This course is part of the “Alternative Management” specialization of the third-year HEC Paris School of Management program.

Charte Ethique de l'Observatoire du Management Alternatif

Les documents de l'Observatoire du Management Alternatif sont publiés sous licence Creative Commons <http://creativecommons.org/licenses/by/2.0/fr/> pour promouvoir l'égalité de partage des ressources intellectuelles et le libre accès aux connaissances.

L'exactitude, la fiabilité et la validité des renseignements ou opinions diffusés par l'Observatoire du Management Alternatif relèvent de la responsabilité exclusive de leurs auteurs.



The Origin of Wealth: Evolution, Complexity, and the Radical Remaking of Economics

Editeur : Harvard Business School Press

Première date de parution de l'ouvrage : 2006

Résumé : *L'origine de la richesse* annonce une révolution paradigmatique des sciences économiques traditionnelles vers la complexité économique, théorie qui interprète l'économie comme un système complexe et adaptable composé d'agents rationnels qui interagissent entre eux. Cette dynamique mène à des processus évolutionnistes de variations, sélections et d'amplifications, agissant sur des modèles de technologies, d'institutions sociales et des entreprises qui poussent vers la croissance économique à travers le temps et produisent de la richesse. Ainsi, l'évolution est, selon Eric D. Beinhocker, la véritable origine de la richesse.

Mots clés : Complexité Économique, dynamiques, acteur, réseau, émergence, évolution, espace de modélisation, Plans d'Entreprises, Technologie Physique, Technologie Sociale, variation, sélection, amplification

The Origin of Wealth: Evolution, Complexity, and the radial Remaking of Economics

Publisher: Harvard Business School Press

First release: 2006

Abstract: *The Origin of Wealth* declares a paradigm shift from Traditional Economics to Complexity Economics which interprets economy as a complex adaptive system made up of realistically rational agents who dynamically interact with each other. These dynamics lead to evolutionary processes of variation, selection, and amplification, acting on designs for technologies, social institutions, and businesses that drive growth in the economy over time and create wealth. Thus, evolution, according to Eric D. Beinhocker, is the true origin of wealth.

Key words: Complexity Economics, dynamics, agent, network, emergence, evolution, design space, Business Plans, Physical Technology, Social Technology, variation, selection, amplification

Table of Content

| | |
|---|-----------|
| The Origin of Wealth: Evolution, Complexity, and the Radical Remaking of Economics | 3 |
| Table of Content..... | 4 |
| 1. The Author and His Work..... | 5 |
| 2. Summary of the Book..... | 7 |
| 3. Commentaries | 13 |

1. The Author and His Work

1.1 A Brief Biography of the Author

Eric D. Beinhocker is a senior fellow at the McKinsey Global Institute, the independent economics think-tank of McKinsey. The research he conducts is very broad, covering economic, management, and public policy issues.

Before he shifted his main attention to the academic world, his early life has been highlighted by practices in the business world. He has been a software CEO, a venture capitalist, an Executive Director of the Corporate Executive Board, and a previous partner at McKinsey and a co-leader of its global strategy practice. He has also held research appointments at the Harvard Business School, the MIT Sloan School, and been a visiting scholar at the Santa Fe Institute.

Except for his book *The Origin of Wealth*, which has been published by Harvard Business School Press and Random House, Eric D. Beinhocker has written extensively on business and economic issues. His writings have appeared in many publications, including *Fortune*, the *Financial Times*, *The McKinsey Quarterly*, and a variety of academic publications.

Eric D. Beinhocker received his education at Dartmouth College and the MIT Sloan School where he was the Henry Ford II Scholar. Originally from Boston, he currently lives in London.

1.2 The Significance of the Book

No phrase can describe the nature of this book, *The Origin of Wealth: Evolution, Complexity, and the Radical Remaking of Economics*, better than the title of its own first part: A Paradigm Shift. Regarding neo-classical economics as the “old paradigm” and the main target of criticism of this book, Eric D. Beinhocker challenges from head to toe the old view of economy as an equilibrium system made up of perfectly rational agents in optimally efficient

markets. Instead, Eric D. Beinhocker declares the arrival of a new era of economic thinking – Complexity Economics.

As the first major work of Eric D. Beinhocker, this book is a fruit of his versatile previous experiences and broad thinkings. This versatility enabled him to look not only at one discipline or school, but draw nutrition from areas such as behavioral economics, institutional economics, Austrian economics, and evolutionary economics and integrated the advances in many academic fields, such as, evolutionary theory, physics, biology, computer science, and cognitive science. The influence of Santa Fe Institute is strong on the author due to maybe his experience of being a visiting scholar there.

As a result, *The Origin of Wealth* is a ruthless pamphlet which systemically reveals the limitations of many flawed Traditional economic theories; and provoke intellectual revolutions by its wide-ranging survey of contemporary intellectual explorations. As Professor Richard R. Nelson puts it, “*The Origin of Wealth* provides a splendid, far-reaching survey and synthesis of recent work by economists and other scholars to build a truly dynamic theory of the economy.”

2. Summary of the Book

2.1 The Structure of the Book

The Origin of Wealth is a declaration of a paradigm shift in economic thinkings from neo-classical to complexity economics. Thus, naturally, the book has to first refute the “old”, Traditional Economics which understands economy as a static equilibrium system; and then, establish the “new”, complexity economics which understands economy as a complex adaptive system made up of realistically rational agents who dynamically interact with each other. Finally explain how these dynamics lead to evolutionary processes of variation, selection, and amplification, acting on designs for technologies, social institutions, and businesses that drive growth in the economy over time and conclude that EVOLUTION is the true ORIGIN OF WEALTH.

The detailed structure of the book is demonstrated below:

“Part 1: A Paradigm Shift” raises the main argument of the book. It criticizes the flawed neo-classical stand of economics by pointing out how this world is not in equilibrium but instead a chaos what evolves all the time.

“Part 2: Complexity Economics” systemically demonstrates the key concepts of the new paradigm – complexity economics: dynamics, agents, networks, emergence and evolution, while throwing sharp critiques upon neo-classical economics as a counterpart.

“Part 3: How Evolution Creates Wealth” explains how these key concepts introduced in part 2, generate the general purpose algorithm of evolution which creates innovations, technology, social norms and eventually the current form of economy.

“Part 4: What it Means for Business and Society” discusses the new perspective Complexity Economics can give to real world practices, such as: strategy, organization, finance, politics

and policy.

2.2 Principal Stages of Reasoning and Principal Conclusions

To answer the questions of “what is wealth?”, “how is it created?”, “how can we create more of it?” the reasoning of this book goes through three stages:

Stage 1: Refutation of the flawed neo-classical economic theories and revealment for their weak ability to explain and direct correctly the real world economic activities and phenomena;

Stage 2: Establishing the new intellectual paradigm of Complexity Economics;

Stage 3: Explaining how the new theory can really explain and guide the creation of wealth, i.e. our economy.

2.2.1 Stage 1: Critique of Neo-classical Economics

The critique neo-classical economics receives in this book is systemic. The first under challenge are the unrealistic assumptions made, especially after Walrac, such as perfect rationality, zero transaction costs, godlike auctioneers, etc. These assumptions are not only unrealistic but also not appropriate for the purpose of the model and affect the answers the model provides. As a matter of fact, some assumptions are arbitrarily made up with the sole purpose of making the equilibrium math work. What is more, traditional economics is in lack of explicit timescale; it makes interesting and fundamental questions exogenous; it ignores positive feedback which can drag things away instead of towards equilibrium. All these make basic neo-classical economic “laws”, such as supply and demand, or, one price, hard to pass reality tests. To conclude, although this book does not intend to be a critique of economics in general, some specific theories in, what Eric D. Beinhocker calls, the “Walras’s cathedral”, are harshly criticized in order to build economics as a more rigorous science which is a better approximation of reality.

2.2.2 Stage 2: Key Concepts in Complexity Economics

Complexity Economics at this point of its development is not yet a single, synthesized theory, but a research direction that waits for further exploration. This book identifies five “big ideas”

that help define Complexity Economics and distinguish it from work that has gone before it.

1. Dynamics:

Instead of understanding economy as a static, linear system in equilibrium, Complexity Economics understand it as open, dynamic nonlinear systems, which never truly reach equilibrium.

2. Agents:

As opposed to the Traditional assumption of “perfectly rational” agents, who always have complete information, make no errors, have no biases, and have no need to learn or adapt, Complexity Economics has agents that have bounded rationality, use inductive rules of thumb to make decisions, have incomplete information, are subject to errors and biases and learn and adapt over time.

3. Networks:

The connections among agents in Complexity Economics model are extensive. Not like Traditional models where agents only interact indirectly through market mechanisms, Complexity Economics explicitly models interactions between individual agents. The networks of relationships change over time.

4. Emergence:

In Complexity Economics, macro- and microeconomics are no longer separate disciplines. Rather, macro patterns are considered to be emergent result of micro-level behaviors and interactions.

5. Evolution:

Instead of making factors of change exogenous, Complexity Economics regards the evolutionary process of differentiation, selection and amplification as the source of innovations and change. Evolution is the key for the growth in of our economic system and its complexity.

2.2.3 Stage 3: How Evolution Create Wealth

Wealth, in this book, is understood as a “fit order”. As the biological world, economy evolves as evolution searches for fit designs through the process of variation, selection and replication in the substrate of Business Plans. “Variation” occurs as people continually experiment with, tinker with, and invent new business strategies and organizational designs. “Selection” works at multiple levels in the economy, causing some Business Plans to succeed and others to fail. Likewise, “replication” occurs in economic systems as successful designs are rewarded with more resources and are widely copied. This evolutionary algorithm of variation, selection and replication works on the vast diversity in design spaces to create patterns of innovation, growth, and creative destruction, so too these patterns in the real economy. In another word, it is economic EVOLUTION that has driven the growth of our society and economy over time and created wealth!

It is worth pointing out that economic evolution is not only the result of evolution in a single design space of Business Plans. As proposed by Eric D. Beinhocker in this book, it is the result of co-evolution across three design spaces: Physical Technologies (designs and processes for transforming matter, energy, and information in ways that are useful for human purposes); Social Technologies (designs, processes, and rules that human use to organize themselves); and finally Business Plans that play the critical role of melding Physical and Social Technologies together under a strategy, and then operationally expressing the resulting designs in the economic world. The fitness functions can be economic reasons, or other purposes. As a matter of fact, a common feature of evolutionary systems is that an innovation evolved for one purpose may become co-opted for another.

To sum up, the model *The Origin of Wealth* outlines views economy and wealth as the joint product of evolution in three distinct but interlinked and coevolving design spaces: Physical Technology space, Social Technology space, and Business Plan space. In each space, there are vast choices of designs. The ones that don't fit are discarded, and the ones that fit remain. This process creates the order that we see in our technological, social and economic worlds. Hence, all wealth is created by thermodynamically irreversible, entropy-lowering acts of creating fit orders. Individual minds, organizations, and markets churn through Business Plans selecting forms of order that meet their needs, fulfilling drives and preferences. Patterns of

economic order in the form of products and services compete with each other to be needed, desired, and even craved by consumers. Patterns of economic order that are successful in the competition to meet our preferences are fit, and the Business Plan modules that contribute to the creation of fit economic order are then amplified over time. Same as species and their environments co-evolve, the competitive ecosystem of Business Plans and the preferences of consumers co-evolve, making fitness a contingent concept and sustain the economic growth and accumulation of wealth.

3. Commentaries

As a best-seller, *Origin of Wealth* leaves little to be desired. The language is humorous, enticing and explicit. The reasoning is complete and clear. The survey of contemporary thoughts in economics and other domains is far-reaching and thought-provoking. This book serves ideally as an appetizer for anyone (professionals, researchers or common readers) who is interested in having a new vision in observing our economic society. As Anders Bylund wrote in his book review, “Eric Beinhocker's *The Origin of Wealth* ties risk management, incentives, and human psychology together with many other criteria, all under one philosophical framework...evolution” and it could push all other best-sellers he liked “into obsolescence”¹.

However, this book, in some extent, suffers from common short-comings of best-sellers too, for instance the inevitable tradeoff between scale and depth. Although this dilemma is most of the time handled quite skillfully by Eric D. Beinhocker, some complex and profound topics might still be treated a bit too simplistically and lacks some validity.

Compared to Part 1 & 2, some arguments in Part 3 & 4 of the book seem weaker. The idea of comparing economic system with biological system is promising but these two systems are not identical nonetheless. Can the modern economy be viewed as a fruit of the evolution of Business Plans? Are Business Plans the real schemas that code all the designs in the design space for economic evolution? If so, which elements within Business Plans should be identified as the elements serve for evolutionary selection? These are questions that cannot be answered by rules of thumb.

What also deserves noticing is the “goal” of evolution itself might be experiencing a “paradigm shift”. For a long time, it seems clear that the “purpose” of biological evolution is to survive in nature and in the competition of existence with other species; while the “purpose” of economic evolution is to grow, to produce more and better in order to meet demands and to support safer and better life. However, as this “goal” has been better and better met, we might be at a matching point of a major shift of economic system and its logic.

¹ Anders Bylund, “Foolish Book Review: ‘The Origin of Wealth’”, *The Motley Fool*, December 31 2007, <http://www.fool.com/investing/general/2007/12/31/foolish-book-review-the-origin-of-wealth.aspx>

What will economy be in the following years? What is the true meaning of economy and wealth? If we define wealth as “fit orders”, what should it “fit”? These are crucial questions for a true enquiry of “The Origin of Wealth”.