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BOOK REVIEWS

A Review of *Critical Mass: How One Thing Leads to Another*

Robert A. Olsen

Critical Mass: How One Thing Leads to Another. Phillip Ball, 2004, New York: Farrar, Straus and Giroux, 520 pp.

Many Economists and Psychologists tend to believe that the behavior of markets and social organizations might be fully explained and predicted thru complete understanding of individual's decision making processes. In this book the author explains how significant unexpected system behaviors arise from synchronous interactions between individual decision makers. In addition the author reveals how the same panoply of behaviors arises in systems in diverse fields such as physics, chemistry, and biology where there is no volition on the part of the "individuals" involved, i.e. electrons, molecules, genes, etc. More specifically, physicist Ball suggests that there are fundamental laws governing the operation of complex systems that lead to recognizable patterns of aggregate behavior, that to some degree, are predictable. He suggests that Economists would be well advised to pay greater attention to these system level effects if they wish to develop better models of market behavior. His essential caution is that the behavior of a system as a whole is not always explainable thru a reduction based understanding of its individual parts.

The author develops his "physics of social behavior" by first explaining key concepts in contemporary complexity theory such as self-organization, phase transitions, preferential attachment networks, chaos, etc. He then proceeds to demonstrate how these concepts apply just as forcefully to social organizations as they do to physical, chemical and biological processes. In so doing he demonstrates that understanding the impact of individual decisions on system organization is often more important than trying to understand and predict the behavior of separate individuals based upon "local motivations". The author argues that just as the field of statistical mechanics has given modern physics its central organizing framework, these same principles can be used to understand the dynamics of nonlinear social systems that are also characterized by strong positive feedback and lack of equilibrium. In this regard Ball has some harsh words for neoclassical economics that has bought mathematical tractability at the expense of predictability by the use of simplifying assumptions such as optimization, axiomatic rationality and the dominance of negative feedback. Econophysics is the label sometimes used to describe the methods and perspective that Ball advocates in this book.

Besides its principal message, the book is a fascinating historical tour de force of the motivation, politics and ideas of many theorists whose ideas underlie the development of complexity theory. In the course of the book the reader is treated to a description and synthesis of the ideas of great thinkers such as Newton, Darwin, Maxwell, Boltzman, Smith, Mandelbrot, Von Neuman and the 2005 economics Nobel Laureate Thomas Schelling. Key ideas are clearly explained and the implications are revealed thru the use of multiple examples selected from many disciplines. For those who wish greater depth the author concludes with an extensive bibliography. While there are many books currently on the market that deal with "Complexity Theory" this one is especially relevant because it emphasizes the importance of system level effects for social systems.

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A Review of *Basic Instinct: The Genesis of Behavior*

Robert A. Olsen

Basic Instinct: The Genesis of Behavior. Mark Blumberg, 2005, New York: Thunder Mouth Press, 261 pp.

Most people tend to associate "instinct" with non-human animals and conceptualize instincts as genetic programs or blueprints that trigger behaviors that are antithetical to cognition. In this book, Mark Blumberg, Professor of Neuroscience, argues that such a perspective is not only wrong but also virtually impossible from a neuro-scientific point of view. To Blumberg nascent instinct is little more than a simple reaction that is biased toward the features in an environment. Experience and environment have significant but subtle influence on behaviors that we then mistakenly perceive as inborn. From this perspective he argues that behaviors such as a baby's ability to mimic and understand natural laws and a monkey's fear of snakes are not based upon any innate knowledge but evolve from reflex actions associated with experience in particular environments.

The primary message of the book is that there is a growing tendency among many decision theorists to uncritically adopt a "Nativist" approach to the explanation of human behavior. Nativists generally hold the view that complex behaviors are developmental expressions of one's genetic makeup, given experience in a "normal" environment. In other words human possess highly specific neural machinery that produces behaviors that are largely unrelated to learning. A prime example of Nativism is Stephen Pinker's theory of "language as an instinct". Evolutionary Psychologists' belief in the existence of "mental modules" also has a Nativist flavor. Blumberg is a passionate anti Nativist who advocates a more epigenetic perspective to human behavior wherein experience and environment, as well as genes, have significant influence in explaining complex behavior. He does not believe that the mind is a blank slate at birth. However he believes that much Nativist support is derived from poor and misleading experimental research.

In conclusion, this book is not written as another polemic in a "nature versus nurture" debate. It is a balanced examination of the subtle role of genes, experience and environment in determining human behavior. If you have ever questioned how it could, or should be, that brains arrive "preprogrammed" this book has much to offer. The writing style is entertaining and the many examples are revealing. The book also offers an extensive bibliography for readers who wish a more in depth treatment of the major ideas.

A Review of *Leaps In The Dark: The Making of Scientific Reputations*

Robert A. Olsen

Leaps In The Dark: The Making of Scientific Reputations. John Waller, 2004, Oxford, UK: Oxford University Press, 292 pp.

As a relatively new discipline, Behavioral Finance poses many challenges to those who are engaged in integrating recent biological and psychological knowledge into simpler traditional neoclassical financial models. In addition to the usual work of developing and testing alternative hypotheses, researchers must also deal with the skepticism and often hostile treatment afforded them by those who have a vested interest in not seeing the older paradigm questioned and possibly upended. In this engaging and enlightening book scientific historian John Waller reveals how the treatment of Behavioral Finance researchers is little different from that experienced by others who dared to question the prevailing orthodoxy, whether the area was medicine, physics, psychiatry, or genetics.

Professor Waller begins by noting that the real history of scientific discovery is anything but the straightforward process that appears in most history books. In particular, he warns that the romantic cliché of the exceptionally brilliant and farsighted researcher many years ahead of his or her time is the exception rather than the rule. Most science is evolutionary and not revolutionary. He suggests that the history of science is skewed by "presentism". "Presentism" is the tendency to judge past ideas solely by how closely they approximate current orthodoxies. Presentism causes history's also-rans to be viewed as bigots or crackpots when in fact they were most often competent scientists and their theories were perfectly good efforts for their time. Conversely, Presentism very often tends to grant heroic status to researchers who were lucky to be in the right place at the right time or who were skilled self- promoters with mediocre scientific minds. An interesting observation is made of how naturally occurring "net-

work" effects create a "rich get richer" phenomena in the attribution of research prowess. Similar to the behavior of other natural systems, an initial noteworthy outcome often puts a researcher in the position to unjustifiably benefit from the intellectual contribution of others and thereby benefit from a "winner takes all" situation. Usually this leads to lack of recognition of truly excellent ideas by other researchers who are not "socially connected" or the object of media attention.

The book contains a series of historical case studies from various scientific disciplines and it is organized into four sections. The first section titled" Falling from Grace" deals with the histories of men who's theories are often characterized today as irrational or pre scientific. With hindsight we can now see that their theories were misguided but not by any deficiency of reason. The second section titled "Eureka Revisited ", deals with scientists whose theories took much time to "mature" and, at the time, were not seen as great " breakthroughs", although they are seen to be so from today's perspective. The third section "Heroes Made to Measure" deals with scientists who didn't actually do or say what most textbooks attribute to them. The final section "Do It Yourself Heroes" deals with well-known scientists who were skilled at embellishing their own scientific role or shamefully attaching their names to the contributions of others.

If like me you often wonder why others seem unable to embrace "obvious" Behavioral Finance theories or you become irritated with "efficient market" gurus claiming that Behavioral Finance concepts were implicit in their earlier misguided models, the perspective offered by this book will be a soothing balm. As I read it I was reminded of an old Norwegian proverb that says" even the crow has wings of gold when it flies toward the setting sun". Framing is all-important in the interpretation of scientific history just as it is in financial decision making!

A Review of *Advances In Behavioral Economics* and *Advances In Behavioral Finance Vol. II*

Robert A. Olsen

Advances In Behavioral Economics. Colin Camerer, George Loewenstein, Matthew Rabin ed., 2004, Princeton, NJ: Princeton University Press, 740 pp.

Advances In Behavioral Finance Vol. II. Richard Thaler, ed., 2005, Princeton, NJ: Princeton University Press, 712 pp.

These two readings books by Princeton University Press contain some of the more important articles published in the behavioral finance/ economics literature since approximately 1992. Each book contains about 22 articles by prominent researchers in the field and they focus on some of the most researched topics. The books are written for graduate students and professionals who wish a survey of some the most important recent developments in the field. While the books tend to suffer the standard readings book bias of a too narrow focus on the research of a few well-known academicians, they are well worth owning because of their extensive bibliographies and references. Thus these books are actually more valuable as vehicles to explore a much wider range of topics and authors than the article selection might at first suggest.

Of the two books "Advances in Behavioral Economics" has the largest selection of excellent conceptual articles and covers the widest scope. In particular, this book covers a plethora of topics such as loss aversion, risk, inter temporal choice, game theory, preference selection, mental accounting, economic fairness, etc. In contrast, "Advances In Behavioral Finance, II" tends be more empirical in orientation and more narrowly focused on a limited number of stock market phenomena such as over and under reaction, loss aversion and arbitrage. In my estimation Advances in Behavioral Finance II is lacking in that it does not adequately explore the wider range of key social and psychological behaviors that lie behind the wider range of " non efficient" financial market phenomena.

In general, readings books are very limited as a medium for keeping readers up to date and broadly informed about developments in a given field of study. That is why each issue the Journal of Behavioral Finance contains the column "Research Elsewhere". "Research Elsewhere" consists of abstracts of significant and unique behavioral decision research published in forty six other major journals in fields as diverse as Accounting and Neuroscience. Behavioral Finance is by its nature an interdisciplinary field of study and the "Research Elsewhere" column provides readers with a cost effective vehicle for staying abreast of significant current developments.