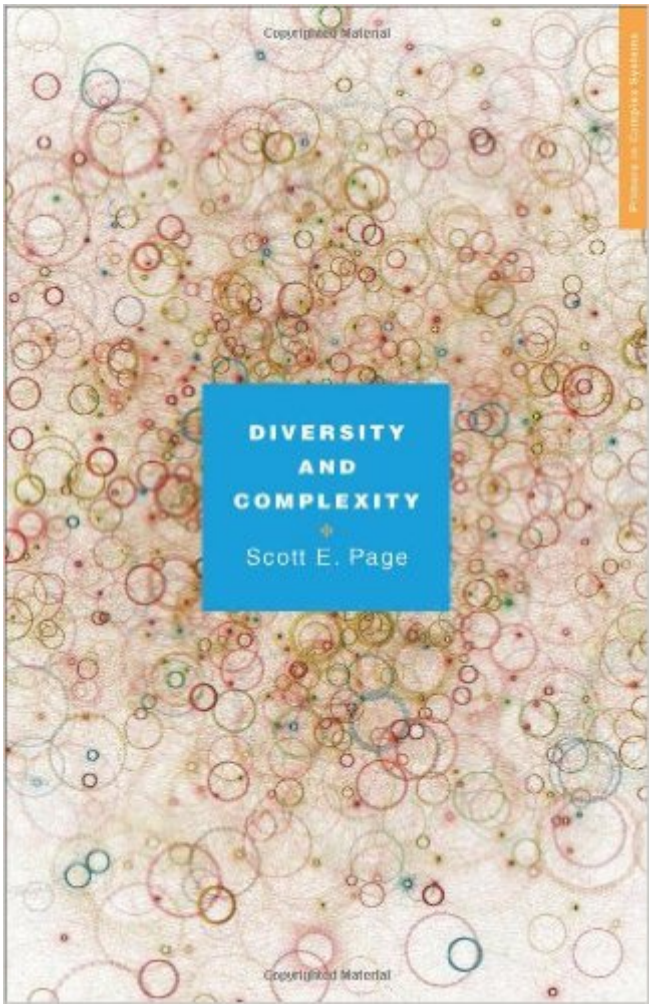
Diversity And Complexity (Primers In Complex Systems)



Synopsis

This book provides an introduction to the role of diversity in complex adaptive systems. A complex system--such as an economy or a tropical ecosystem--consists of interacting adaptive entities that produce dynamic patterns and structures. Diversity plays a different role in a complex system than it does in an equilibrium system, where it often merely produces variation around the mean for performance measures. In complex adaptive systems, diversity makes fundamental contributions to system performance. Scott Page gives a concise primer on how diversity happens, how it is maintained, and how it affects complex systems. He explains how diversity underpins system level robustness, allowing for multiple responses to external shocks and internal adaptations; how it provides the seeds for large events by creating outliers that fuel tipping points; and how it drives novelty and innovation. Page looks at the different kinds of diversity--variations within and across types, and distinct community compositions and interaction structures--and covers the evolution of diversity within complex systems and the factors that determine the amount of maintained diversity within a system. Provides a concise and accessible introduction Shows how diversity underpins robustness and fuels tipping points Covers all types of diversity The essential primer on diversity in complex adaptive systems

Book Information

Series: Primers in Complex Systems
Paperback: 304 pages
Publisher: Princeton University Press; 1 edition (November 28, 2010)
Language: English
ISBN-10: 0691137676
ISBN-13: 978-0691137674
Product Dimensions: 5.4 x 0.9 x 8.4 inches
Shipping Weight: 12.8 ounces (View shipping rates and policies)
Average Customer Review: 4.1 out of 5 starsÂ Â See all reviewsÂ (15 customer reviews)
Best Sellers Rank: #172,570 in Books (See Top 100 in Books) #50 inÂ Books > Science & Math > Physics > System Theory #279 inÂ Books > Textbooks > Social Sciences > Political Science > Political History #1088 inÂ Books > Textbooks > Social Sciences > Sociology

Customer Reviews

I like the book. In this work Page provides insight not necessarily answers.Definitions are easy, insight isn’t. Definitions I can get anywhere or make them up myself. The invitation Page provides is

simple: here’s a couple of ways to think about the phenomenon under consideration. And he does so with a comfortable degree of depth and rigor. I have to admit, I didn’t spend a lot of time thinking about the role of diversity in complex systems. So maybe now it isn’t an afterthought.Page is no Tom Clancy, but neither is the book boring. A bit of a warning though, if you do not know much about complexity, maybe it would be a good idea to read a primer first. Page gives an intro on complexity, but its a bit shallow. I think a novice ought to have a better appreciation for connectedness, inter-dependency, adaptability, etc. in general to provide a richer context.Let’s face it, a lot of concepts in complexity science are axiomatic at best, and ill-defined/poorly understood to any degree of depth. I think it is very much worthwhile to take a characteristic of complex systems, i.e. diversity, and spend some time and effort exploring its nuances. Good job and a worthy addition to anyone’s library on complexity.If I lost my copy, is the book worthwhile enough to buy it again? Yes.

I was disinclined to like this book even though I am a product of one of Page’s academic departments at Michigan.Too many books based on formal modeling are based on assumptions that have little bearing on what actually happens in the world I work in where, models or not, our job is to foster cooperation in conditions of diversity and complexity.Much too my surprise, I really like his use of formal modeling techniques and his ability to bring them down (near) the level of mere mortals who lack his economic and mathematical sophistication. I agreed with his conclusion at least in part because I wanted to.But seriously, the logic in his arguments contains germs of ideas we who work in the applied field should pay attention and even more than critics of cooperative problem solving ignore at their empirical and normative peril.

i love this book!!!! was fantastic to read and so understood what he meant when he said the ambiguity of definitions can get one stuck in the mud and trying to understand this topic. Then he does show, definitions are, relevant to context of discussion. the definitions have to be tweaked evovle with the topic in general as applied to different scenarios.My opinion only, this book is a classic,, and just one of many on this topic that is good to read. But I like the style of writing, insights, not to difficult to understand, but you will have to stop and think about some of his thoughts, but i like books that make you do that, feels like conversation. He does try to get away from pure mathematics but at same time he includes it, but you can still get much from reading this book even if the math is not your favorite topic, the way you process understanding ideas. I suggest, try the sample first, then buy the book if you like the sample. You feel a wisdom in the writing. that

admits what is known, and not known. many today write not willing to admit limitations in knowledge, and that gets annoying because good research always admits limitations. Again, my opinion only, and no i'm not new to this topic, so i did have prior knowledge on this topic before I started reading this book.

If you are looking for research to introduce you to the role of diversity in complex adaptive systems, then you must start with Page's book. It explains the layered foundations of "how diversity happens, how it is maintained, and how it affects complex systems." This book examines the multi-level aspects of diversity (i.e., types, community compositions and interaction structures).

The book is too messy, it is really hard to understand the message that the author wants to convey. I was expecting a better book. Some concepts taken from economics are not well described and sometimes the author contradict himself

Scott Page is one of the better teachers around, writes clearly, and is a solid mathematician. On the other hand, the book is accessible to anyone who managed to get through 8th grade algebra.

Cool book taking a different approach to diversity (not in the demographic sense, but in a biological sense)--give some good foundational ideas.

This book leads us to new frontiers in social scientific thinking. All global scholars ought to engage its conceptualization to refine their research about the dynamics of social systems.

Social Change: A Practical Guide to Solving Complex Problems, Avoiding Unintended Consequences, and Achieving Lasting Results Signals and Boundaries: Building Blocks for Complex Adaptive Systems (MIT Press) The Computational Beauty of Nature: Computer Explorations of Fractals, Chaos, Complex Systems, and Adaptation Introduction to the Modeling and Analysis of Complex Systems An Introduction to Genetic Algorithms (Complex Adaptive Systems) Advances in Genetic Programming (Complex Adaptive Systems) Advances in Genetic Programming, Vol. 3 (Complex Adaptive Systems) Advances in Genetic Programming, Vol. 2 (Complex Adaptive Systems)