



Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology)

From The MIT Press

Download now

Read Online 

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press

Modularity—the attempt to understand systems as integrations of partially independent and interacting units—is today a dominant theme in the life sciences, cognitive science, and computer science. The concept goes back at least implicitly to the Scientific (or Copernican) Revolution, and can be found behind later theories of phrenology, physiology, and genetics; moreover, art, engineering, and mathematics rely on modular design principles. This collection broadens the scientific discussion of modularity by bringing together experts from a variety of disciplines, including artificial life, cognitive science, economics, evolutionary computation, developmental and evolutionary biology, linguistics, mathematics, morphology, paleontology, physics, theoretical chemistry, philosophy, and the arts.

The contributors debate and compare the uses of modularity, discussing the different disciplinary contexts of "modular thinking" in general (including hierarchical organization, near-decomposability, quasi-independence, and recursion) or of more specialized concepts (including character complex, gene family, encapsulation, and mosaic evolution); what modules are, why and how they develop and evolve, and the implication for the research agenda in the disciplines involved; and how to bring about useful cross-disciplinary knowledge transfer on the topic. The book includes a foreword by the late Herbert A. Simon addressing the role of near-decomposability in understanding complex systems.

 [Download Modularity: Understanding the Development and Evol ...pdf](#)

 [Read Online Modularity: Understanding the Development and Ev ...pdf](#)

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology)

From The MIT Press

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press

Modularity—the attempt to understand systems as integrations of partially independent and interacting units—is today a dominant theme in the life sciences, cognitive science, and computer science. The concept goes back at least implicitly to the Scientific (or Copernican) Revolution, and can be found behind later theories of phrenology, physiology, and genetics; moreover, art, engineering, and mathematics rely on modular design principles. This collection broadens the scientific discussion of modularity by bringing together experts from a variety of disciplines, including artificial life, cognitive science, economics, evolutionary computation, developmental and evolutionary biology, linguistics, mathematics, morphology, paleontology, physics, theoretical chemistry, philosophy, and the arts.

The contributors debate and compare the uses of modularity, discussing the different disciplinary contexts of "modular thinking" in general (including hierarchical organization, near-decomposability, quasi-independence, and recursion) or of more specialized concepts (including character complex, gene family, encapsulation, and mosaic evolution); what modules are, why and how they develop and evolve, and the implication for the research agenda in the disciplines involved; and how to bring about useful cross-disciplinary knowledge transfer on the topic. The book includes a foreword by the late Herbert A. Simon addressing the role of near-decomposability in understanding complex systems.

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press Bibliography

- Sales Rank: #3532520 in Books
- Published on: 2005-06-01
- Original language: English
- Number of items: 1
- Dimensions: 9.00" h x 1.25" w x 7.00" l, 2.30 pounds
- Binding: Hardcover
- 471 pages

 [Download Modularity: Understanding the Development and Evol ...pdf](#)

 [Read Online Modularity: Understanding the Development and Ev ...pdf](#)

Download and Read Free Online Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press

Editorial Review

About the Author

Werner Callebaut is Scientific Manager of the Konrad Lorenz Institute for Evolution and Cognition Research, Vienna, and Professor of Philosophy at Limburg University, Belgium.

Diego Rasskin-Gutman is Ramón y Cajal Research Associate and Head of the Theoretical Biology Research Group at the Institute Cavanilles for Biodiversity and Evolutionary Biology, University of Valencia, Spain. He is the coeditor (with Werner Callebaut) of *Modularity: Understanding the Development and Evolution of Natural Complex Systems* (MIT Press, 2009).

Users Review

From reader reviews:

Juan Farley:

Hey guys, do you would like to finds a new book you just read? May be the book with the concept Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) suitable to you? Often the book was written by well-known writer in this era. The particular book untitled Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology)is the main of several books in which everyone read now. This specific book was inspired a number of people in the world. When you read this guide you will enter the new way of measuring that you ever know ahead of. The author explained their thought in the simple way, consequently all of people can easily to know the core of this guide. This book will give you a great deal of information about this world now. So that you can see the represented of the world within this book.

Hattie Leclair:

People live in this new time of lifestyle always attempt to and must have the free time or they will get lots of stress from both day to day life and work. So , when we ask do people have extra time, we will say absolutely sure. People is human not really a robot. Then we inquire again, what kind of activity do you possess when the spare time coming to a person of course your answer will certainly unlimited right. Then do you ever try this one, reading publications. It can be your alternative with spending your spare time, typically the book you have read is usually Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology).

Andrew Taylor:

In this particular era which is the greater person or who has ability to do something more are more valuable than other. Do you want to become certainly one of it? It is just simple solution to have that. What you need to do is just spending your time very little but quite enough to have a look at some books. On the list of books in the top record in your reading list will be Modularity: Understanding the Development and

Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology). This book and that is qualified as The Hungry Inclines can get you closer in growing to be precious person. By looking up and review this reserve you can get many advantages.

Dennis Bales:

E-book is one of source of understanding. We can add our know-how from it. Not only for students but additionally native or citizen want book to know the revise information of year in order to year. As we know those publications have many advantages. Beside all of us add our knowledge, also can bring us to around the world. From the book Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) we can take more advantage. Don't that you be creative people? For being creative person must prefer to read a book. Just simply choose the best book that suitable with your aim. Don't possibly be doubt to change your life at this time book Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology). You can more inviting than now.

**Download and Read Online Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press
#EPUGB7FY2WI**

Read Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press for online ebook

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press books to read online.

Online Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press ebook PDF download

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press Doc

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press Mobipocket

Modularity: Understanding the Development and Evolution of Natural Complex Systems (Vienna Series in Theoretical Biology) From The MIT Press EPub