

The End Of Certainty Ilya Prigogine

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The Ascent of Humanity - Charles Eisenstein 2013-02-05

Charles Eisenstein explores the history and potential future of civilization, tracing the converging crises of our age to the illusion of the separate self. In this limited hardcover edition of Eisenstein's landmark book, he argues that our disconnection from one another and the natural world has mislaid the foundations of science, religion, money, technology, economics, medicine, and education as we know them. It has fired our near-pathological pursuit of technological Utopias even as we push ourselves and our planet to the brink of collapse. Fortunately, an Age of Reunion is emerging out of the birth pangs of an earth in crisis. Our journey of separation hasn't been a terrible mistake but an evolutionary process and an adventure in self-discovery. Even in our darkest hour, Eisenstein sees the possibility of a more beautiful world--not through the extension of millennia-old methods of management and control but by fundamentally reimagining ourselves and our systems. We must shift away from our Babelian efforts to build ever-higher towers to heaven and instead turn out attention to creating a new kind of civilization--one designed for beauty rather than height. Breathtaking in its scope and intelligence, *The Ascent of Humanity* is a landmark book showing what it truly means to be human. "A tour-de-force filled with astounding insight, wit, wisdom and heart." -- Christopher Uhl, author of *Developing Ecological Consciousness: Paths to a Sustainable Future* "Quite marvelous, a hugely important work. This book is truly needed in this time of deepening crisis." --John Zerzan, author of *Future Primitive and Elements of Refusal*

Deep Down Things - Bruce A. Schumm 2004-10-20

A useful scientific theory, claimed Einstein, must be explicable to any intelligent person. In *Deep Down Things*, experimental particle physicist Bruce Schumm has taken this dictum to heart, providing in clear, straightforward prose an elucidation of the Standard Model of particle physics -- a theory that stands as one of the crowning achievements of twentieth-century science. In this one-of-a-kind book, the work of many of the past century's most notable physicists, including Einstein, Schrodinger, Heisenberg, Dirac, Feynman, Gell-Mann, and Weinberg, is knit together in a thorough and accessible exposition of the revolutionary notions that underlie our current view of the fundamental nature of the physical world. Schumm, who has spent much of his life emmersed in the subatomic world, goes far beyond a mere presentation of the "building blocks" of matter, bringing to life the remarkable connection between the ivory tower world of the abstract mathematician and the day-to-day, life-enabling properties of the natural world. Schumm leaves us with an insight into the profound open questions of particle physics, setting the stage for understanding the progress the field is poised to make over the next decade or two. Introducing readers to the world of particle physics, *Deep Down Things* opens new realms within which are many clues to unraveling the mysteries of the universe.

Leadership and the New Science - Margaret J. Wheatley 2010-06-21

A bestseller--more than 300,000 copies sold, translated into seventeen languages, and featured in the *Los Angeles Times*, *Washington Post*, *Miami Herald*, *Harvard Business Review*, *Fast Company*, and *Fortune*; Shows how discoveries in quantum physics, biology, and chaos theory enable us to deal successfully with change and uncertainty in our organizations and our lives; Includes a new chapter on how the new sciences can help us understand and cope with some of the major social challenges of our times We live in a time of chaos, rich in potential for new possibilities. A new world is being born. We need new ideas, new ways of seeing, and new relationships to help us now. New science--the new discoveries in biology, chaos theory,

and quantum physics that are changing our understanding of how the world works--offers this guidance. It describes a world where chaos is natural, where order exists "for free." It displays the intricate webs of cooperation that connect us. It assures us that life seeks order, but uses messes to get there. *Leadership and the New Science* is the bestselling, most acclaimed, and most influential guide to applying the new science to organizations and management. In it, Wheatley describes how the new science radically alters our understanding of the world, and how it can teach us to live and work well together in these chaotic times. It will teach you how to move with greater certainty and easier grace into the new forms of organizations and communities that are taking shape.

Berkeley's Idealism - Georges Dicker 2011-06-15

Using the tools of contemporary analytic philosophy, Georges Dicker here examines both the destructive and the constructive sides of Berkeley's thought, against the background of the mainstream views that he rejected.

The Cambridge Companion to Literature and Science - Steven Meyer 2018-05-03

In 1959, C. P. Snow lamented the presence of what he called the 'two cultures': the apparently unbridgeable chasm of understanding and knowledge between modern literature and modern science. In recent decades, scholars have worked diligently and often with great ingenuity to interrogate claims like Snow's that represent twentieth- and twenty-first-century literature and science as radically alienated from each other. *The Cambridge Companion to Literature and Science* offers a roadmap to developments that have contributed to the demonstration and emergence of reciprocal connections between the two domains of inquiry. Weaving together theory and empiricism, individual chapters explore major figures - Shakespeare, Bacon, Emerson, Darwin, Henry James, William James, Whitehead, Einstein, Empson, and McClintock; major genres and modes of writing - fiction, science fiction, non-fiction prose, poetry, and dramatic works; and major theories and movements - pragmatism, critical theory, science studies, cognitive science, ecocriticism, cultural studies, affect theory, digital humanities, and expanded empiricisms. This book will be a key resource for scholars, graduate students, and undergraduate students alike.

Stability and Complexity in Model Ecosystems - Robert M. May 1974

The Description for this book, *Stability and Complexity in Model Ecosystems*. (MPB-6), will be forthcoming.

Evolution As Entropy - Daniel R. Brooks 1988-10-15

This second edition in just two years offers a considerably revised second chapter, in which information behavior replaces analogies to purely physical systems, as well as practical applications of the authors' theory. Attention is also given to a hierarchical theory of ecosystem behavior, taking note of constraints on local ecosystem members resul.

Emergence, Complexity, and Self-Organization - Alicia Juarrero 2010

Emergence, Complexity, and Self-Organization have become vital focuses of interest not only in the fields of science and philosophy but also in the wider worlds of business and politics. This book presents a series of essays by thinkers who anticipated the significance of those issues and laid the foundations for their current importance. Readers of this book will encounter the important and varied figures of Immanuel Kant, John Stuart Mill, Charles Saunders Peirce, Henry Poincare, Henri Bergson, Alfred North Whitehead, and the British "Emergentists" Samuel Alexander, C. Lloyd Morgan, and C. D. Broad. They will also find essays by the South African thinker and statesman Jan Smuts, the American philosopher Arthur Lovejoy,

the eminent physicist Erwin Schrodinger, two more recent thinkers on emergence, P. E. Meehl and Wilfred Sellars, and Ludwig von Bertalanffy, one of the founders of General Systems Theory. In their detailed and comprehensive introduction to the collection, editors Alicia Juarrero and Carl A. Rubino set the essays in contexts stretching from Heraclitus, Parmenides, Plato, Aristotle, and Hegel to some of the religious, scientific, and philosophical challenges we face today.

Introduction to Modern Thermodynamics - Dilip Kondepudi 2008-05-23

This is the first modern approach to thermodynamics written specifically for a first undergraduate course. It covers the fundamental formalism with some attention given to its history; describes basic applications of the formalism and continues with a number of additional applications that instructors can use according to their particular degree program - these chapters cover thermal radiation, biological systems, nano systems, classical stability theory, and principles of statistical thermodynamics. A wide range of examples appear throughout the book from biological, engineering and atmospheric systems. Each chapter contains a bibliography and numerous examples and exercises. An accompanying web site will provide students with information and links to data sources and other thermodynamics-related sites, and instructors will be able to download complete solutions to exercises.

The Invention of Modern Science - Isabelle Stengers 2000

"The Invention of Modern Science proposes a fruitful way of going beyond the apparently irreconcilable positions, that science is either "objective" or "socially constructed." Instead, suggests Isabelle Stengers, one of the most important and influential philosophers of science in Europe, we might understand the tension between scientific objectivity and belief as a necessary part of science, central to the practices invented and reinvented by scientists."--pub. desc.

Self-Organization in Nonequilibrium Systems - Gregoire Nicolis 1977-05-13

Membranes, Dissipative Structures, and Evolution Edited by G. Nicolis & R. Lefever Focuses on the problem of the emergence/maintenance of biological order at successively higher levels of complexity. Covers the spatiotemporal organization of simple biochemical networks; the formation of pluricellular or macromolecular assemblies; the evolution of these structures; and the functions of specific biological structures. Volume 29 in Advances in Chemical Physics Series, I. Prigogine & Stuart A. Rice, Editors. 1975 Theory and Applications of Molecular Paramagnetism Edited by E. A. Boudreaux & L. N. Mulay Comprehensively treats the basic theory of paramagnetic phenomena from both the classical and mechanical vantages. It examines the magnetic behavior of Lanthanide and Actinide elements as well as traditional transition metals. For each class of compounds, appropriate details of descriptive and mathematical theory are given before their applications. 1976 Theory and Applications of Molecular Diamagnetism Edited by L. N. Mulay & E. A. Boudreaux An invaluable reference for solving chemical problems in magnetism, magnetochemistry, and related areas where magnetic data are important, such as solid-state physics and optical spectroscopy. 197

Time, Chaos and the Quantum - Ilya Prigogine

Science and Sanity - Alfred Korzybski 1958

Non-Equilibrium Statistical Mechanics - Ilya Prigogine 2017-03-17

Groundbreaking monograph by Nobel Prize winner for researchers and graduate students covers Liouville equation, anharmonic solids, Brownian motion, weakly coupled gases, scattering theory and short-range forces, general kinetic equations, more. 1962 edition.

Into the Cool - Eric D. Schneider 2005-06

Demonstrates how the second law of thermodynamics--which refers to energy's tendency to change from being concentrated in one place to being spread out over time--is behind evolution, ecology, economics, and even the origins of life itself in this scientific tour de force that explores how complex systems emerge, enlarge, and reproduce in a chaotic world.

Fully Chaotic Maps and Broken Time Symmetry - Dean J. Driebe 2013-04-17

I am very pleased and privileged to write a short foreword for the monograph of Dean Driebe: Fully Chaotic Maps and Broken Time Symmetry. Despite the technical title this book deals with a problem of fundamental

importance. To appreciate its meaning we have to go back to the tragic struggle that was initiated by the work of the great theoretical physicist Ludwig Boltzmann in the second half of the 19th century. Ludwig Boltzmann tried to emulate in physics what Charles Darwin had done in biology and to formulate an evolutionary approach in which past and future would play different roles. Boltzmann's work has led to innumerable controversies as the laws of classical mechanics (as well as the laws of quantum mechanics) as traditionally formulated imply symmetry between past and future. As is well known, Albert Einstein often stated that "Time is an illusion". Indeed, as long as dynamics is associated with trajectories satisfying the equations of classical mechanics, explaining irreversibility in terms of trajectories appears, as Henri Poincare concluded, as a logical error. After a long struggle, Boltzmann acknowledged his defeat and introduced a probability description in which all microscopic states are supposed to have the same a priori probability. Irreversibility would then be due to the imperfection of our observations associated only with the "macroscopic" state described by temperature, pressure and other similar parameters. Irreversibility then appears devoid of any fundamental significance. However today this position has become untenable.

Modern Thermodynamics - Dilip Kondepudi 2014-12-31

Modern Thermodynamics: From Heat Engines to Dissipative Structures, Second Edition presents a comprehensive introduction to 20th century thermodynamics that can be applied to both equilibrium and non-equilibrium systems, unifying what was traditionally divided into 'thermodynamics' and 'kinetics' into one theory of irreversible processes. This comprehensive text, suitable for introductory as well as advanced courses on thermodynamics, has been widely used by chemists, physicists, engineers and geologists. Fully revised and expanded, this new edition includes the following updates and features: Includes a completely new chapter on Principles of Statistical Thermodynamics. Presents new material on solar and wind energy flows and energy flows of interest to engineering. Covers new material on self-organization in non-equilibrium systems and the thermodynamics of small systems. Highlights a wide range of applications relevant to students across physical sciences and engineering courses. Introduces students to computational methods using updated Mathematica codes. Includes problem sets to help the reader understand and apply the principles introduced throughout the text. Solutions to exercises and supplementary lecture material provided online at <http://sites.google.com/site/modernthermodynamics/>. Modern Thermodynamics: From Heat Engines to Dissipative Structures, Second Edition is an essential resource for undergraduate and graduate students taking a course in thermodynamics.

Cosmopolitics II - Isabelle Stengers 2011

A sweeping inquiry that critiques modern science's claims of objectivity, rationality, and truth

Complexity - Roger Lewin 1999

Examines the field of complexity science, with sections focusing on how the discipline works within computer simulations, natural ecosystems, and various social systems.

Fragile Dominion - Simon A. Levin 2000

How the science of complexity can help save the natural world from collapse.

The End Of Science - John Horgan 2015-04-14

As staff writer for Scientific American, John Horgan has a window on contemporary science unsurpassed in all the world. Who else routinely interviews the likes of Lynn Margulis, Roger Penrose, Francis Crick, Richard Dawkins, Freeman Dyson, Murray Gell-Mann, Stephen Jay Gould, Stephen Hawking, Thomas Kuhn, Chris Langton, Karl Popper, Stephen Weinberg, and E.O. Wilson, with the freedom to probe their innermost thoughts? In *The End Of Science*, Horgan displays his genius for getting these larger-than-life figures to be simply human, and scientists, he writes, "are rarely so human . . . so at their mercy of their fears and desires, as when they are confronting the limits of knowledge." This is the secret fear that Horgan pursues throughout this remarkable book: Have the big questions all been answered? Has all the knowledge worth pursuing become known? Will there be a final "theory of everything" that signals the end? Is the age of great discoverers behind us? Is science today reduced to mere puzzle solving and adding details to existing theories? Horgan extracts surprisingly candid answers to these and other delicate questions as he discusses God, Star Trek, superstrings, quarks, plectics, consciousness, Neural Darwinism, Marx's view of progress, Kuhn's view of revolutions, cellular automata, robots, and the Omega Point, with Fred Hoyle, Noam Chomsky, John Wheeler, Clifford Geertz, and dozens of other eminent scholars. The resulting narrative will

both infuriate and delight as it mindless Horgan's smart, contrarian argument for "endism" with a witty, thoughtful, even profound overview of the entire scientific enterprise. Scientists have always set themselves apart from other scholars in the belief that they do not construct the truth, they discover it. Their work is not interpretation but simple revelation of what exists in the empirical universe. But science itself keeps imposing limits on its own power. Special relativity prohibits the transmission of matter or information as speeds faster than that of light; quantum mechanics dictates uncertainty; and chaos theory confirms the impossibility of complete prediction. Meanwhile, the very idea of scientific rationality is under fire from Neo-Luddites, animal-rights activists, religious fundamentalists, and New Agers alike. As Horgan makes clear, perhaps the greatest threat to science may come from losing its special place in the hierarchy of disciplines, being reduced to something more akin to literary criticism as more and more theoreticians engage in the theory twiddling he calls "ironic science." Still, while Horgan offers his critique, grounded in the thinking of the world's leading researchers, he offers homage too. If science is ending, he maintains, it is only because it has done its work so well.

[Reason in Revolt](#) - Alan Woods 2015-12-15

The achievements of science and technology during the past century are unparalleled in history. They provide the potential for the solution to all the problems faced by the planet, and equally for its total destruction. Allegedly scientific theories are being used to "prove" that criminality is caused, not by social conditions, but by a "criminal gene". Black people are alleged to be disadvantaged, not because of discrimination, but because of their genetic make-up. Of course, such "science" is highly convenient to right-wing politicians intent on ruthlessly cutting welfare. In the field of theoretical physics and cosmology there is a growing tendency towards mysticism. The "Big Bang" theory of the origin of the universe is being used to justify the existence of a Creator, as in the book of Genesis . For the first time in centuries, science appears to lend credence to religious obscurantism. Yet this is only one side of the story.

Chaotic Dynamics and Transport in Fluids and Plasmas - Ilya Prigogine 1992-10-31

Market: Students and researchers in chaos, plasma physics, and fluid transport. This superb collection of invited papers offers an excellent overview of the current status and future trends in chaotic dynamics, plasma and fluid physics, nonlinear phenomena and chaos, and transport and turbulence studies.

Einstein Meets Magritte: An Interdisciplinary Reflection - Diederik Aerts 2012-12-06

Einstein Meets Magritte: An Interdisciplinary Reflection presents insights of the renowned key speakers of the interdisciplinary Einstein meets Magritte conference (1995, Brussels Free University). The contributions elaborate on fundamental questions of science, with regard to the contemporary world, and push beyond the borders of traditional approaches. All of the articles in this volume address this fundamental theme, but somewhere along the road the volume expanded to become much more than a mere expression of the conference's dynamics. The articles not only deal with several scientific disciplines, they also confront these fields with the full spectrum of contemporary life, and become new science. As such, this volume presents a state-of-the-art reflection of science in the world today, in all its diversity. The contributions are accessible to a large audience of scientists, students, educators, and everyone who wants to keep up with science today.

Candid Science III - István Hargittai 2003-03-21

In this invaluable book, 36 famous chemists, including 18 Nobel laureates, tell the reader about their lives in science, the beginnings of their careers, their aspirations, and their hardships and triumphs. The reader will learn about their seminal discoveries, and the conversations in the book bring out the humanity of these great scientists. Highlighted in the stories are the discovery of new elements and compounds, the VSEPR model, computational chemistry, organic synthesis, natural products, polysaccharides, supramolecular chemistry, peptide synthesis, combinatorial chemistry, X-ray crystallography, the reaction mechanism and kinetics, electron transfer in small and large systems, non-equilibrium systems, oscillating reactions, atmospheric chemistry, chirality, and the history of chemistry. Contents: Glenn T SeaborgWilliam N LipscombNeil BartlettRonald J GillespieLawrence S BartellPaul von Rague SchleyerAlbert EschenmoserGilbert StorkEndre A BalazsAlfred BaderJacquelin K BartonAd BaxDonald J CramJean-Marie LehnBruce MerrifieldArpad FurkaGuy OurissonMildred CohnPaul D BoyerJohn E WalkerHerbert A HauptmanJack D DunitzHartmut MichelJohann DeisenhoferRobert HuberManfred EigenJohn C

PolanyiDudley R HerschbachHenry TaubeRudolph A MarcusIlya PrigogineAnatol M ZhabotinskyRichard N ZarePaul J CrutzenReiko KurodaStephen Mason Readership: Chemists and other scientists.

Keywords:Chemistry;Nobel Prize;History of Chemistry;Famous ChemistsReviews:"This book makes interesting light reading, especially for chemists who have watched the field develop over the past 30 to 60 years ... it makes a worthwhile contribution to the oral history of science, and I recommend it for both libraries and individuals."Nature "István Hargittai's interviews with eminent scientists are a lively and important way of entering the minds of prominent chemists ... this makes a wonderful bedside book that attractively opens up a gallery of people, and a window onto the development of science."Chemistry & Industry "I have come back to these interviews time after time after my first read through. It's always inspiring to read about people who are good at what they do. To paraphrase Jack Dunitz, if you want value for your money in a predictable way, I think Hargittai's book is a good value. I strongly recommend it."Southwest Retort "Hargittai has done a superb job in selecting both chemical topics and appropriate interview subjects who know the topics first-hand ... Candid Science III is an interesting source of information on both current and recent chemistry and its practitioners, from a first-hand perspective of those practitioners. It also promises to be a valuable sourcebook for historians of the chemistry of this time."The Alchemist, The ChemWeb Magazine "I recommend this useful volume, suitable for complete reading or browsing, not only to historians of chemistry and science but also to practicing chemists and students, who will benefit from these inspiring stories by some of chemistry's most eminent contributors."Chemical Heritage "I recommend this handy volume, admirably suited for complete reading or browsing, not only to historians of chemistry and of science but also to practicing scientists, especially beginning ones, as well as to students, who will surely benefit from these inspiring stories by some of chemistry's leading luminaries."The Chemical Educator

Probabilistic Properties of Deterministic Systems - Andrzej Lasota 2008-11-27

This book shows how densities arise in simple deterministic systems. There has been explosive growth in interest in physical, biological and economic systems that can be profitably studied using densities. Due to the inaccessibility of the mathematical literature there has been little diffusion of the applicable mathematics into the study of these 'chaotic' systems. This book will help to bridge that gap. The authors give a unified treatment of a variety of mathematical systems generating densities, ranging from one-dimensional discrete time transformations through continuous time systems described by integro-partial differential equations. They have drawn examples from many scientific fields to illustrate the utility of the techniques presented. The book assumes a knowledge of advanced calculus and differential equations, but basic concepts from measure theory, ergodic theory, the geometry of manifolds, partial differential equations, probability theory and Markov processes, and stochastic integrals and differential equations are introduced as needed.

[The Nature of Physical Existence](#) - Ivor Leclerc 2014-02-04

First published in 2002. Routledge is an imprint of Taylor & Francis, an informa company.

[Rethinking the World](#) - Peter Pogany 2006-09

The post-Marxian, new historical materialism described in this book breathes new life into our comprehension of the world. A 200-year perspective on modernity tells us that an all-embracing physical phenomenon holds humankind in its grip. History has recorded two distinct global systems thus far: "laissez faire/metal money," which spanned most of the 19th century and lasted until the outbreak of World War I, and "mixed economy/weak multilateralism," which began after 1945 and exists today. The period between the two systems, 1914-1945, was a chaotic transition. This evolutionary pulsation is well known to students of thermodynamics. It corresponds to the behavior of expanding and complexifying material systems. The exhaustion of oil and other natural resources is pushing the world toward a third global system that may be called "two-level economy/strong multilateralism." It will be impossible to get there without a new chaotic transition. No repeated warnings, academic advice, moral advocacy, inspired reforms, or political leadership can provide a shortcut around it. But if it took "1914-1945" to make a relatively minor adjustment in the global order, what will it take to make a major one?

The End of Certainty - Ilya Prigogine 1997-08-17

The Nobel laureate and founder of chaos theory challenges the accepted laws of nature, explaining why

Einstein's belief that time is merely an illusion is incorrect

Order Out of Chaos - Ilya Prigogine 2018-01-23

A pioneering book that shows how the two great themes of classic science, order and chaos, are being reconciled in a new and unexpected synthesis Order Out of Chaos is a sweeping critique of the discordant landscape of modern scientific knowledge. In this landmark book, Nobel Laureate Ilya Prigogine and acclaimed philosopher Isabelle Stengers offer an exciting and accessible account of the philosophical implications of thermodynamics. Prigogine and Stengers bring contradictory philosophies of time and chance into a novel and ambitious synthesis. Since its first publication in France in 1978, this book has sparked debate among physicists, philosophers, literary critics and historians.

Time's Arrow and Archimedes' Point - Huw Price 1997-12-04

Why is the future so different from the past? Why does the past affect the future and not the other way around? What does quantum mechanics really tell us about the world? In this important and accessible book, Huw Price throws fascinating new light on some of the great mysteries of modern physics, and connects them in a wholly original way. Price begins with the mystery of the arrow of time. Why, for example, does disorder always increase, as required by the second law of thermodynamics? Price shows that, for over a century, most physicists have thought about these problems the wrong way. Misled by the human perspective from within time, which distorts and exaggerates the differences between past and future, they have fallen victim to what Price calls the "double standard fallacy": proposed explanations of the difference between the past and the future turn out to rely on a difference which has been slipped in at the beginning, when the physicists themselves treat the past and future in different ways. To avoid this fallacy, Price argues, we need to overcome our natural tendency to think about the past and the future differently. We need to imagine a point outside time -- an Archimedean "view from nowhen" -- from which to observe time in an unbiased way. Offering a lively criticism of many major modern physicists, including Richard Feynman and Stephen Hawking, Price shows that this fallacy remains common in physics today -- for example, when contemporary cosmologists theorize about the eventual fate of the universe. The "big bang" theory normally assumes that the beginning and end of the universe will be very different. But if we are to avoid the double standard fallacy, we need to consider time symmetrically, and take seriously the possibility that the arrow of time may reverse when the universe recollapses into a "big crunch." Price then turns to the greatest mystery of modern physics, the meaning of quantum theory. He argues that in missing the Archimedean viewpoint, modern physics has missed a radical and attractive solution to many of the apparent paradoxes of quantum physics. Many consequences of quantum theory appear counterintuitive, such as Schrodinger's Cat, whose condition seems undetermined until observed, and Bell's Theorem, which suggests a spooky "nonlocality," where events happening simultaneously in different places seem to affect each other directly. Price shows that these paradoxes can be avoided by allowing that at the quantum level the future does, indeed, affect the past. This demystifies nonlocality, and supports Einstein's unpopular intuition that quantum theory describes an objective world, existing independently of human observers: the Cat is alive or dead, even when nobody looks. So interpreted, Price argues, quantum mechanics is simply the kind of theory we ought to have expected in microphysics -- from the symmetric standpoint. Time's Arrow and Archimedes' Point presents an innovative and controversial view of time and contemporary physics. In this exciting book, Price urges physicists, philosophers, and anyone who has ever pondered the mysteries of time to look at the world from the fresh perspective of Archimedes' Point and gain a deeper understanding of ourselves, the universe around us, and our own place in time.

Leadership and the New Science (16pt Large Print Edition) - Margaret J. Wheatley 2010-06-21

A bestseller--more than 300,000 copies sold, translated into seventeen languages, and featured in the Los Angeles Times, Washington Post, Miami Herald, Harvard Business Review, Fast Company, and Fortune; Shows how discoveries in quantum physics, biology, and chaos theory enable us to deal successfully with change and uncertainty in our organizations and our lives; Includes a new chapter on how the new sciences can help us understand and cope with some of the major social challenges of our times We live in a time of chaos, rich in potential for new possibilities. A new world is being born. We need new ideas, new ways of seeing, and new relationships to help us now. New science--the new discoveries in biology, chaos theory, and quantum physics that are changing our understanding of how the world works--offers this guidance. It

describes a world where chaos is natural, where order exists "for free." It displays the intricate webs of cooperation that connect us. It assures us that life seeks order, but uses messes to get there. Leadership and the New Science is the bestselling, most acclaimed, and most influential guide to applying the new science to organizations and management. In it, Wheatley describes how the new science radically alters our understanding of the world, and how it can teach us to live and work well together in these chaotic times. It will teach you how to move with greater certainty and easier grace into the new forms of organizations and communities that are taking shape.

Quantum Physics - Alastair Rae 2012-03-26

Quantum physics is believed to be the fundamental theory underlying our understanding of the physical universe. However, it is based on concepts and principles that have always been difficult to understand and controversial in their interpretation. This book aims to explain these issues using a minimum of technical language and mathematics. After a brief introduction to the ideas of quantum physics, the problems of interpretation are identified and explained. The rest of the book surveys, describes and criticises a range of suggestions that have been made with the aim of resolving these problems; these include the traditional, or 'Copenhagen' interpretation, the possible role of the conscious mind in measurement, and the postulate of parallel universes. This new edition has been revised throughout to take into account developments in this field over the past fifteen years, including the idea of 'consistent histories' to which a completely new chapter is devoted.

At Home in the Universe - John Archibald Wheeler 1996

An unforgettable journey through the mind and memory of one of the century's great physicists, At Home in the Universe will delight, educate, and inspire.

Exploring Complexity - G. Nicolis 1989

Unexpected discoveries in nonequilibrium physics and nonlinear dynamics are changing our understanding of complex phenomena. Recent research has revealed fundamental new properties of matter in far-from-equilibrium conditions, and the prevalence of instability-where small changes in initial conditions may lead to amplified effects.

New Methods in Computational Quantum Mechanics - Ilya Prigogine 2009-09-09

The use of quantum chemistry for the quantitative prediction of molecular properties has long been frustrated by the technical difficulty of carrying out the needed computations. In the last decade there have been substantial advances in the formalism and computer hardware needed to carry out accurate calculations of molecular properties efficiently. These advances have been sufficient to make quantum chemical calculations a reliable tool for the quantitative interpretation of chemical phenomena and a guide to laboratory experiments. However, the success of these recent developments in computational quantum chemistry is not well known outside the community of practitioners. In order to make the larger community of chemical physicists aware of the current state of the subject, this self-contained volume of Advances in Chemical Physics surveys a number of the recent accomplishments in computational quantum chemistry. This stand-alone work presents the cutting edge of research in computational quantum mechanics. Supplemented with more than 150 illustrations, it provides evaluations of a broad range of methods, including: * Quantum Monte Carlo methods in chemistry * Monte Carlo methods for real-time path integration * The Redfield equation in condensed-phase quantum dynamics * Path-integral centroid methods in quantum statistical mechanics and dynamics * Multiconfigurational perturbation theory-applications in electronic spectroscopy * Electronic structure calculations for molecules containing transition metals * And more Contributors to New Methods in Computational Quantum Mechanics KERSTIN ANDERSSON, Department of Theoretical Chemistry, Chemical Center, Sweden DAVID M. CEPERLEY, National Center for Supercomputing Applications and Department of Physics, University of Illinois at Urbana-Champaign, Illinois MICHAEL A. COLLINS, Research School of Chemistry, Australian National University, Canberra, Australia REINHOLD EGGER, Fakultät für Physik, Universität Freiburg, Freiburg, Germany ANTHONY K. FELTS, Department of Chemistry, Columbia University, New York RICHARD A. FRIESNER, Department of Chemistry, Columbia University, New York MARKUS P. FÜLSCHER, Department of Theoretical Chemistry, Chemical Center, Sweden K. M. HO, Ames Laboratory and Department of Physics, Iowa State University, Ames, Iowa C. H. MAK, Department of Chemistry,

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Trames - 2002

Is Future Given? - Ilya Prigogine 2003

In this book, after discussing the fundamental problems of current science and other philosophic concepts, beginning with controversies between Heraclitus and Parmenides, Ilya Prigogine launches into a message of great hope: the future has not been determined. Contrary to globalisation and the apparent contemporary mass culture society, individual behaviour is beginning to increasingly become the key factor which governs the evolution of both the world and society as a whole. It is a message that challenges existing widespread views, implicitly or explicitly, through mass communication; moreover the importance of the individual's actions implies a reflection of each person on the responsibilities that each one assumes when taking or acting upon a decision. This responsibility is associated with the freedom of thought as well

as a critical analysis of fashions, customs, preconceived ideas, and ideologies, externally imposed: exactly contrary to the ideas of those who wish us to be "perfect consumers" in a world dominated only by monetary wealth. Challenging this drive towards the elimination of freedom of thought in the individual is now imperative if we are to save man and his planet from catastrophe, which seems to be ever imminent and (unfortunately) irreversible. This last book of Ilya Prigogine provides a small, disputable, but nonetheless valuable contribution towards that end.

Equilibrium and Nonequilibrium Statistical Mechanics - Radu Balescu 1991

Humanity in a Creative Universe - Stuart A. Kauffman 2016

Much of Stuart Kauffman's work in the philosophy of evolutionary biology has centered on the question of what he calls "prestatibility" in evolution: that is, whether or not science can precisely predict the future development of biological features in organisms, using a singular "Final Theory" of evolution. In this book, Kauffman argues that the development of life on earth is not prestatable, because no theory could ever fully account for the limitless variability of evolution. He believes that the biological universe's primary trait is that it is creative, and that acknowledging this creativity will lead to a radically different way in which humans view themselves and all other living beings. It is an argument against Reductive Materialism. Kauffman also asserts that man's Modern preoccupation to explain all things with scientific law has deadened our creative natures. In his words, he aims for the book to be "one that revises our scientific world view of the universe as entirely entailed by law." Instead, he advocates an approach to science that accounts for "unprestatable" creativity, thus allowing humans to fully realize their creative selves. The book will build off the ideas developed in his last two works, *Reinventing the Sacred* and *Investigations*. Incorporating philosophers like Kant and Descartes, as well as the science of Newton and Darwin, *Humanity in a Creative Universe* is Stuart Kauffman's argument for a creative and unpredictable view of modern science.