Quantum Mind And Social Science Unifying Physical And Social Ontology

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Quantum Methods in Social Science - Emmanuel Haven 2017-06-22
Shown here is how basic concepts of physics can be used to improve models in finance, economics, psychology and biology. Readers are introduced to how physical theory can inform non-physical phenomena in the social sciences, thereby improving decision making and modeling capabilities in research-based and professional settings. Consisting of three parts, the first part deals with the application of quantum operator methods to financial transactions and population dynamics. Part two develops physical concepts, working from classical Lagrangian and Hamiltonian mechanics and leading to an introduction of quantum information and its application to decision making. The final part treats classical and quantum probability theory in some detail and deals, at a more advanced level, with the impact of quantum probabilities on common knowledge and common beliefs between agents in systems. Quantum Methods in Social Science is a high level textbook for advanced undergraduate or graduate students of economics, finance and business, while also being of interest to those with a background in physics. Request Inspection Copy Contents:Quantum Counting: The Number Operator in a Social Science Context:IntroductionClassical Interlude: Modelling Population DynamicsA Quantum Description of SystemsQuantum CountingQuantum TransactionsQuantum MigrationMore Elaborate SystemsConclusionsReferences — Part IThe Quantum-Like Paradigm with Simple Applications:Taking a Step BackModeling Information with an Operational FormalismDecision Making and Quantum ProbabilityReferences — Part IIThe Quantum-Like Paradigm with Advanced Applications:Basics of Classical ProbabilityQuantum ProbabilityCommon KnowledgeQuantum(-Like) Formalization of Common KnowledgeExamplesAppendixReferences — Part III Readership: Advanced undergraduate or graduate students of economics, finance and business, while also being of interest to those with a background in physics.

The Science of Consciousness - Eva Deli 2015-09-09
According to ancient traditions there is an organic unity of existence. Yet science have shown our world as mechanical and highly disconnected until now. Through a synthesis of the most recent scientific research in theoretical physics, evolution and cognition, Eva Deli formulates an organically unified cosmos: particles of matter, the mind and the whole cosmos fit together as Russian dolls. In this coherent and intuitive world view to understand particles is to understand the mind, and it is to understand the universe. Material interaction is the source of a cosmological evolution that increases complexity and culminates in the

emergence of the intelligent mind. Characteristics of elementary particles can be recognized in conscious processes. For example, human decision making can be best described by quantum probability, allowing quantum theory to be used for search-engine optimization. The context of judgments and decisions corresponds to quantum interference of elementary matter particles. The mind also forms a unified experience in spite of the cacophony of ideas and sensory stimuli it receives from the environment. These and other similar findings characterize a mental elementary particle, which interacts by elementary forces: called emotions. Emotions are the emotional equivalents of gravity, electromagnetism, the nuclear weak and strong forces. For the first time, the scientific classification of emotions becomes possible. The indivisible, self-contained, and self-regulating universe also shows elementary particle characteristics. Thus, the material, mental elementary particles and the universe have identical energy structures and analogue operational principles. and together form a fractal structure of vastly different energy levels and sizes: the organically interconnected, complex universe. The hypothesis' fresh approach has the potential to ameliorate and mend the existing schism between religion and the sciences, and its main tenets can be verified by technically feasible experiments. The recognition that material particles, the mind and the universe are analogue quantum systems, a radically new physical world view emerges, which if proven correct, can point toward potential applications in physics and medicine. The hypothesis can explain many currently unexplained phenomena in physics, evolution, neurology and the social sciences. For example the hypothesis defines time, it redefines entropy and it introduces a hypothesis for gravity. Its new vision for evolution and emotions has implications for social sciences and even economy. Videos posted on the Author's page facilitate understanding some key concepts.

Schrödinger - Walter Moore 2015-10-06
Erwin Schrödinger was a brilliant and charming Austrian, a great scientist, and a man with a passionate interest in people and ideas. In this, the first comprehensive biography of Schrödinger, Walter Moore draws upon recollections of Schrödinger's friends, family and colleagues, and on contemporary records, letters and diaries. Schrödinger's life is portrayed against the backdrop of Europe at a time of change and unrest. His best known scientific work was the discovery of wave mechanics, for which he was awarded the Nobel prize in 1933. Schrödinger led a very intense life, both in his scientific research and in his personal life. Walter Moore has written a highly readable biography of this fascinating and complex man, which will appeal not only to scientists but to anyone interested in the history of our times, and in the life and thought of one of the great men of twentieth-century science.

Basic Structures of Reality - Colin McGinn 2011-12-09
In Basic Structures of Reality, Colin McGinn deals with questions of metaphysics, epistemology, and philosophy of mind from the vantage point of physics. Combining general philosophy with physics, he covers such topics as the definition of matter, the nature of space, motion, gravity, electromagnetic fields, the character of physical knowledge, and consciousness and meaning. Throughout, McGinn maintains an historical perspective and seeks to determine how much we really know of the world described by physics. He defends a version of "structuralism": the thesis that our knowledge is partial and merely abstract, leaving a large epistemological gap at the center of physics. McGinn then connects this element of mystery to parallel mysteries in relation to the mind. Consciousness emerges as just one more mystery of physics. A theory of matter and space is developed, according to which the impenetrability of matter is explained as the deletion of volumes of space. McGinn proposes a

philosophy of science that distinguishes physics from both psychology and biology, explores the ontology of energy, and considers the relevance of physics to seemingly remote fields such as the theory of meaning. In the form of a series of aphorisms, the author presents a metaphysical system that takes laws of nature as fundamental. With its broad scope and deep study of the fundamental questions at the heart of philosophy of physics, this book is not intended primarily for specialists, but for the general philosophical reader interested in how physics and philosophy intersect.

Consilience - E. O. Wilson 2014-11-26
"A dazzling journey across the sciences and humanities in search of deep laws to unite them." --The Wall Street Journal One of our greatest living scientists--and the winner of two Pulitzer Prizes for On Human Nature and The Ants--gives us a work of visionary importance that may be the crowning achievement of his career. In Consilience (a word that originally meant "jumping together"), Edward O. Wilson renews the Enlightenment's search for a unified theory of knowledge in disciplines that range from physics to biology, the social sciences and the humanities. Using the natural sciences as his model, Wilson forges dramatic links between fields. He explores the chemistry of the mind and the genetic bases of culture. He postulates the biological principles underlying works of art from cave-drawings to Lolita. Presenting the latest findings in prose of wonderful clarity and oratorical eloquence, and synthesizing it into a dazzling whole, Consilience is science in the path-clearing traditions of Newton, Einstein, and Richard Feynman.

Einstein's Dice and Schr□dinger's Cat - Paul Halpern 2015-04-14
When the fuzzy indeterminacy of quantum mechanics overthrew the orderly world of Isaac Newton, Albert Einstein and Erwin Schrödinger were at the forefront of the revolution. Neither man was ever satisfied with the standard interpretation of quantum mechanics, however, and both rebelled against what they considered the most preposterous aspect of quantum mechanics: its randomness. Einstein famously quipped that God does not play dice with the universe, and Schrödinger constructed his famous fable of a cat that was neither alive nor dead not to explain quantum mechanics but to highlight the apparent absurdity of a theory gone wrong. But these two giants did more than just criticize: they fought back, seeking a Theory of Everything that would make the universe seem sensible again. In Einstein’s Dice and Schrödinger’s Cat, physicist Paul Halpern tells the little-known story of how Einstein and Schrödinger searched, first as collaborators and then as competitors, for a theory that transcended quantum weirdness. This story of their quest—which ultimately failed—provides readers with new insights into the history of physics and the lives and work of two scientists whose obsessions drove its progress. Today, much of modern physics remains focused on the search for a Theory of Everything. As Halpern explains, the recent discovery of the Higgs Boson makes the Standard Model—the closest thing we have to a unified theory— nearly complete. And while Einstein and Schrödinger failed in their attempt to explain everything in the cosmos through pure geometry, the development of string theory has, in its own quantum way, brought this idea back into vogue. As in so many things, even when they were wrong, Einstein and Schrödinger couldn’t help but get a great deal right.

Beyond the Dynamical Universe - Michael Silberstein 2018-02-02
Theoretical physics and foundations of physics have not made much progress in the last few decades. Whether we are talking about unifying general relativity and quantum field theory (quantum gravity), explaining so-called dark energy and dark matter (cosmology), or the interpretation and implications of quantum mechanics and relativity, there is no consensus in sight. In addition, both enterprises are deeply puzzled about various facets of time including above all, time as experienced. The authors argue that, across the board,

this impasse is the result of the "dynamical universe paradigm," the idea that reality is fundamentally made up of physical entities that evolve in time from some initial state according to dynamical laws. Thus, in the dynamical universe, the initial conditions plus the dynamical laws explain everything else going exclusively forward in time. In cosmology, for example, the initial conditions reside in the Big Bang and the dynamical law is supplied by general relativity. Accordingly, the present state of the universe is explained exclusively by its past. This book offers a completely new paradigm (called Relational Blockworld), whereby the past, present and future co-determine each other via "adynamical global constraints," such as the least action principle. Accordingly, the future is just as important for explaining the present as is the past. Most of the book is devoted to showing how Relational Blockworld resolves many of the current conundrums of both theoretical physics and foundations of physics, including the mystery of time as experienced and how that experience relates to the block universe.

Friendship and International Relations - S. Koschut 2014-10-01

International friendship is a distinct type of interstate relationship, and that as such, it can contribute to capture aspects of international politics that have long remained unattended. This book offers a framework for analyzing friendship in international politics by presenting a variety of conceptual approaches and empirical cases.

What Is the World - Stoyan Kurtev 2013-08-23

What is the world is the deepest question one could ask. Its answer requires an understanding of both matter and mind, and also of the relationship between them. This book offers a new approach to answering this question, based on the concept of representation and resulting in an identity theory regarding the relationship between mind and matter. In doing that, it offers a new way of thinking about the notoriously counterintuitive quantum phenomena and also about the totality of everything, what we call 'the universe.' That new understanding leads to a projection about the future of the universe for the next 10 million years and has practical implications about our present-day way of life and worldviews.

Quantum Mind - Arnold Mindell, PH.D. 2012-12-31

Quantum Mind. The Edge Between Physics and Psychology This is the second edition with new preface from the author. In a single volume, Arnold Mindell brings together psychology, physics, math, myth, and shamanism - not only mapping the way for next-generation science but also applying this wisdom to personal growth, group dynamics, social and political processes, and environmental issues. Beginning with a discussion of cultural impacts on mathematics, he presents esoteric but plausible interpretations of imaginary numbers and the quantum wavefunction. In this context he discusses dreams, psychology, illness, shape-shifting (moving among realities), and the self-reflecting Universe - bringing in not only shamanism but also the Aboriginal, Greek, and Hindu myths and even sacred geometry from the Masonic orders and the Native Americans. The book is enriched by several psychological exercises that enable the reader to subjectively experience mathematics (counting, discounting, squaring, complex conjugating), physics (parallel worlds, time travel), and shamanism (shape-shifting).

Niebuhrian International Relations - Gregory J. Moore 2020-04-03

Reinhold Niebuhr's ideas about ethics, social justice, and foreign policy have been hugely influential for American political thought, and this has been true across the political spectrum, from progressive social justice activists to neo-conservatives. A one-time leader in the Socialist party, Niebuhr worked with Eleanor Roosevelt to found Americans for Democratic Action. Jimmy Carter took inspiration from his ideas about love and justice, and

Barack Obama has praised him as one of his favorite philosophers. His theories have also influenced neoconservatives, many of whom cited his work to support the 2003 invasion of Iraq. Yet, Niebuhr never published a single, comprehensive book on his approach to international relations, and, because he was so prolific, one would have to sift through volumes of his work to try to construct such a unified vision. This book distills Niebuhr's disparate and heretofore difficult-to-access work on international relations into one concise and accessible volume. Drawing from the well-springs of Niebuhr's Christian social thought, the volume explores the depths of Niebuhr's views on human nature, race, collective life, U.S. foreign policy, Just War Theory, Cold War era containment, globalization, and the U.N. It then applies his approach to contemporary foreign policy issues such as the 2003 Iraq War, the Responsibility to Protect, and the rise of China. The book also considers Niebuhr's contribution to IR theory and contextualizes it in the present day revival of classical Realism with a multivariate, existentialist twist. Ultimately, the book asserts that Niebuhr's notion of a fallible, self-interested view of human nature, his dialectical approach, and a related moral dualism run throughout his work on politics and international relations as they did through the rest of his work.

The Power to Divide - Timothy W. Crawford 2021-05-15

Timothy W. Crawford's The Power to Divide examines the use of wedge strategies, a form of divisive statecraft designed to isolate adversaries from allies and potential supporters to gain key advantages. With a multidimensional argument about the power of accommodation in competition, and a survey of alliance diplomacy around both World Wars, The Power to Divide artfully analyzes the past and future performance of wedge strategy in great power politics. Crawford argues that nations attempting to use wedge strategy do best when they credibly accommodate likely or established allies of their enemies. He also argues that a divider's own alliances can pose obstacles to success and explains the conditions that help dividers overcome them. He advances these claims in eight focused studies of alliance diplomacy surrounding the World Wars, derived from published official documents and secondary histories. Through those narratives, Crawford adeptly assesses the record of countries that tried an accommodative wedge strategy, and why ultimately, they succeeded or failed. These calculated actions often became turning points, desired or not, in a nation's established power. For policymakers today facing threats to power from great power competitors, Crawford argues that a deeper historical and theoretical grasp of the role of these wedge strategies in alliance politics and grand strategy is necessary. Crawford drives home the contemporary relevance of the analysis with a survey of China's potential to use such strategies to divide India from the US, and the United States' potential to use them to forestall a China-Russia alliance, and closes with a review of key theoretical insights for policy.

Quantum Anthropology - Radek Trnka 2016-10-03

The book offers a fresh look on man, cultures, and societies built on the current advances in the fields of quantum mechanics, quantum philosophy, and quantum consciousness. The authors have developed an inspiring theoretical framework transcending the boundaries of particular disciplines in social sciences and the humanities. Quantum anthropology is a perspective, studying man, culture, and humanity while taking into account the quantum nature of our reality. This framework redefines current anthropological theory in a new light, and provides an interdisciplinary overlap reaching to psychology, sociology, and consciousness studies. Contents 1. Introduction: Why Quantum Anthropology? 2. Empirical and Nonempirical Reality 3. Appearance, Frames, Intra-Acting Agencies, and Observer Effect 4. Emergence of Man and Culture 5. Fields, Groups,

Cultures, and Social Complexity 6. Man as Embodiment 7. Collective Consciousness and Collective Unconscious in Anthropology 8. Life Trajectories of Man, Cultures and Societies 9. Death and Final Collapses of Cultures and Societies 10. Language, Collapse of Wave Function, and Deconstruction 11. Myth and Entanglement 12. Ritual, Observer Effect, and Collective Consciousness 13. Conclusions and Future Directions

Connecting Quarks with the Cosmos - National Research Council 2003-03-12

Advances made by physicists in understanding matter, space, and time and by astronomers in understanding the universe as a whole have closely intertwined the question being asked about the universe at its two extremesâ€"the very large and the very small. This report identifies 11 key questions that have a good chance to be answered in the next decade. It urges that a new research strategy be created that brings to bear the techniques of both astronomy and sub-atomic physics in a cross-disciplinary way to address these questions. The report presents seven recommendations to facilitate the necessary research and development coordination. These recommendations identify key priorities for future scientific projects critical for realizing these scientific opportunities.

Quantum Aspects of Life - Derek Abbott 2008-09-12

This book presents the hotly debated question of whether quantum mechanics plays a non-trivial role in biology. In a timely way, it sets out a distinct quantum biology agenda. The burgeoning fields of nanotechnology, biotechnology, quantum technology, and quantum information processing are now strongly converging. The acronym BINS, for Bio-Info-Nano-Systems, has been coined to describe the synergetic interface of these several disciplines. The living cell is an information replicating and processing system that is replete with naturally-evolved nanomachines, which at some level require a quantum mechanical description. As quantum engineering and nanotechnology meet, increasing use will be made of biological structures, or hybrids of biological and fabricated systems, for producing novel devices for information storage and processing and other tasks. An understanding of these systems at a quantum mechanical level will be indispensable. Contents:Foreword (Sir R Penrose)Emergence and Complexity:A Quantum Origin of Life? (P C W Davies)Quantum Mechanics and Emergence (S Lloyd)Quantum Mechanisms in Biology:Quantum Coherence and the Search for the First Replicator (J Al-Khalili & J McFadden)Ultrafast Quantum Dynamics in Photosynthesis (A O Castro, F F Olsen, C F Lee & N F Johnson)Modelling Quantum Decoherence in Biomolecules (J Bothma, J Gilmore & R H McKenzie)The Biological Evidence:Molecular Evolution: A Role for Quantum Mechanics in the Dynamics of Molecular Machines that Read and Write DNA (A Goel)Memory Depends on the Cytoskeleton, but is it Quantum? (A Mershin & D V Nanopoulos)Quantum Metabolism and Allometric Scaling Relations in Biology (L Demetrius)Spectroscopy of the Genetic Code (J D Bashford & P D Jarvis)Towards Understanding the Origin of Genetic Languages (A D Patel)Artificial Quantum Life:Can Arbitrary Quantum Systems Undergo Self-Replication? (A K Pati & S L Braunstein)A Semi-Quantum Version of the Game of Life (A P Flitney & D Abbott)Evolutionary Stability in Quantum Games (A Iqbal & T Cheon)Quantum Transmemetic Intelligence (E W Piotrowski & J S≈adkowski)The Debate:Dreams versus Reality: Plenary Debate Session on Quantum Computing (For Panel: C M Caves, D Lidar, H Brandt, A R Hamilton, Against Panel: D K Ferry, J Gea-Banacloche, S M Bezrukov, L B Kish, Debate Chair: C R Doering, Transcript Editor: D Abbott)Plenary Debate: Quantum Effects in Biology: Trivial or Not? (For Panel: P C W Davies, S Hameroff, A Zeilinger, D Abbott, Against Panel: J Eisert, H M Wiseman, S M Bezrukov, H Frauenfelder, Debate Chair: J Gea-Banacloche, Transcript Editor: D Abbott)Nontrivial Quantum Effects in Biology: A Skeptical Physicist's View (H Wiseman & J Eisert)That's Life! —

The Geometry of π Electron Clouds (S Hameroff) Readership: Graduate students and researchers in quantum physics, biophysics, nanosciences, quantum chemistry, mathematical biology and complexity theory, as well as philosophers of science. Keywords:Quantum Biology;Quantum Computation;Quantum Mechanics;Biophysics;Nanotechnology;Quantum Technology;Quantum Information Processing;Bio-Info-Nano-Systems (BINS);Emergence;Complexity;Complex Systems;Cellular Automata;Game Theory;Biomolecules;Photosynthesis;DNA;Genetic Code;DecoherenceKey Features:Is structured in a debate style, where contributors argue opposing positionsBrings together some of the finest minds and latest developments in the fieldIs entirely unique and there are no competing titles

Quantum Models of Cognition and Decision - Jerome R. Busemeyer 2012-07-26

Much of our understanding of human thinking is based on probabilistic models. This innovative book by Jerome R. Busemeyer and Peter D. Bruza argues that, actually, the underlying mathematical structures from quantum theory provide a much better account of human thinking than traditional models. They introduce the foundations for modeling probabilistic-dynamic systems using two aspects of quantum theory. The first, 'contextuality', is a way to understand interference effects found with inferences and decisions under conditions of uncertainty. The second, 'quantum entanglement', allows cognitive phenomena to be modeled in non-reductionist ways. Employing these principles drawn from quantum theory allows us to view human cognition and decision in a totally new light. Introducing the basic principles in an easy-to-follow way, this book does not assume a physics background or a quantum brain and comes complete with a tutorial and fully worked-out applications in important areas of cognition and decision.

The Many Worlds of Hugh Everett III - Peter Byrne 2012-12-13

Peter Byrne tells the story of Hugh Everett III (1930-1982), whose "many worlds" theory of multiple universes has had a profound impact on physics and philosophy. Using Everett's unpublished papers (recently discovered in his son's basement) and dozens of interviews with his friends, colleagues, and surviving family members, Byrne paints, for the general reader, a detailed portrait of the genius who invented an astonishing way of describing our complex universe from the inside. Everett's mathematical model (called the "universal wave function") treats all possible events as "equally real", and concludes that countless copies of every person and thing exist in all possible configurations spread over an infinity of universes: many worlds. Afflicted by depression and addictions, Everett strove to bring rational order to the professional realms in which he played historically significant roles. In addition to his famous interpretation of quantum mechanics, Everett wrote a classic paper in game theory; created computer algorithms that revolutionized military operations research; and performed pioneering work in artificial intelligence for top secret government projects. He wrote the original software for targeting cities in a nuclear hot war; and he was one of the first scientists to recognize the danger of nuclear winter. As a Cold Warrior, he designed logical systems that modeled "rational" human and machine behaviors, and yet he was largely oblivious to the emotional damage his irrational personal behavior inflicted upon his family, lovers, and business partners. He died young, but left behind a fascinating record of his life, including correspondence with such philosophically inclined physicists as Niels Bohr, Norbert Wiener, and John Wheeler. These remarkable letters illuminate the long and often bitter struggle to explain the paradox of measurement at the heart of quantum physics. In recent years, Everett's solution to this mysterious problem - the existence of a universe of universes - has gained considerable traction in

scientific circles, not as science fiction, but as an explanation of physical reality.

Quantum Information and Consciousness - Danko D. Georgiev 2017-12-06

"I loved the book! This book is not just interesting, it is exciting. I have probably read every significant book in the field, and this is the strongest and most convincing one yet. It is also one of the most comprehensive in its explanations. I shall most certainly recommend the book to colleagues." -Richard G. Petty, MD "a very good introduction to the basic theory of quantum systems.... Dr. Georgiev's book aptly prepares the reader to confront whatever might be in store later." -from the Foreword by Prof. James F. Glazebrook, Eastern Illinois University This book addresses the fascinating cross-disciplinary field of quantum information theory applied to the study of brain function. It offers a self-study guide to probe the problems of consciousness, including a concise but rigorous introduction to classical and quantum information theory, theoretical neuroscience, and philosophy of the mind. It aims to address long-standing problems related to consciousness within the framework of modern theoretical physics in a comprehensible manner that elucidates the nature of the mind-body relationship. The reader also gains an overview of methods for constructing and testing quantum informational theories of consciousness.

Einstein and the Quantum - A. Douglas Stone 2015-10-06

The untold story of Albert Einstein's role as the father of quantum theory Einstein and the Quantum reveals for the first time the full significance of Albert Einstein's contributions to quantum theory. Einstein famously rejected quantum mechanics, observing that God does not play dice. But, in fact, he thought more about the nature of atoms, molecules, and the emission and absorption of light—the core of what we now know as quantum theory—than he did about relativity. A compelling blend of physics, biography, and the history of science, Einstein and the Quantum shares the untold story of how Einstein—not Max Planck or Niels Bohr—was the driving force behind early quantum theory. It paints a vivid portrait of the iconic physicist as he grappled with the apparently contradictory nature of the atomic world, in which its invisible constituents defy the categories of classical physics, behaving simultaneously as both particle and wave. And it demonstrates how Einstein's later work on the emission and absorption of light, and on atomic gases, led directly to Erwin Schrödinger's breakthrough to the modern form of quantum mechanics. The book sheds light on why Einstein ultimately renounced his own brilliant work on quantum theory, due to his deep belief in science as something objective and eternal.

Quantum Society - Danah Zohar 1995-07-24

In The Quantum Society authors Danah Zohar and Ian Marshall offer a compelling vision for transforming society using the insights of quantum physics to illuminate their ideas. Diversity, they suggest, is the creative evolutionary force, and the more diverse the society, the greater the opportunity for transformation and growth. Their theory of cosmic and social evolution allows us to discover the meaning and purpose of society through an appreciation and understanding of pluralistic thinking. The result is an all-embracing social model that celebrates the dynamic unity that is possible when we work together to orchestrate and articulate our interdependence. The quantum society is flexible, evolving, and ambiguous. In short, it reflects the idea of society as a living system. The authors use the language of physics to provide the images and metaphors appropriate for understanding the principles that inform this system, bringing into focus our harmonious place within the natural world.

Quantum Computation and Quantum Information - Michael A. Nielsen 2010-12-09

One of the most cited books in

physics of all time, Quantum Computation and Quantum Information remains the best textbook in this exciting field of science. This 10th anniversary edition includes an introduction from the authors setting the work in context. This comprehensive textbook describes such remarkable effects as fast quantum algorithms, quantum teleportation, quantum cryptography and quantum error-correction. Quantum mechanics and computer science are introduced before moving on to describe what a quantum computer is, how it can be used to solve problems faster than 'classical' computers and its real-world implementation. It concludes with an in-depth treatment of quantum information. Containing a wealth of figures and exercises, this well-known textbook is ideal for courses on the subject, and will interest beginning graduate students and researchers in physics, computer science, mathematics, and electrical engineering.

Science and the Akashic Field - Ervin Laszlo 2007-05-03

Presents the unifying world-concept long sought by scientists, mystics, and sages: an Integral Theory of Everything • Explains how modern science has rediscovered the Akashic Field of perennial philosophy • New edition updates ongoing scientific studies, presents new research inspired by the first edition, and includes new case studies and a section on animal telepathy Mystics and sages have long maintained that there exists an interconnecting cosmic field at the roots of reality that conserves and conveys information, a field known as the Akashic record. Recent discoveries in vacuum physics show that this Akashic Field is real and has its equivalent in science's zero-point field that underlies space itself. This field consists of a subtle sea of fluctuating energies from which all things arise: atoms and galaxies, stars and planets, living beings, and even consciousness. This zero-point Akashic Field is the constant and enduring memory of the universe. It holds the record of all that has happened on Earth and in the cosmos and relates it to all that is yet to happen. In Science and the Akashic Field, philosopher and scientist Ervin Laszlo conveys the essential element of this information field in language that is accessible and clear. From the world of science he confirms our deepest intuitions of the oneness of creation in the Integral Theory of Everything. We discover that, as philosopher William James stated, "We are like islands in the sea, separate on the surface but connected in the deep."

Free Will and Consciousness in the Multiverse - Christian D. Schade 2019-01-29

It is hard to interpret quantum mechanics. The most surprising, but also most parsimonious, interpretation is the many-worlds, or quantum-multiverse interpretation, implying a permanent coexistence of parallel realities. Could this perhaps be the appropriate interpretation of quantum mechanics? This book collects evidence for this interpretation, both from physics and from other fields, and proposes a subjectivist version of it, the clustered-minds multiverse. The author explores its implications through the lens of decision making and derives consequences for free will and consciousness. For example, free will can be implemented in the form of vectorial choices, as introduced in the book. He furthermore derives consequences for research in the social sciences, especially in psychology and economics.

The Re-Emergence of Emergence - Philip Clayton 2006-06-29

Much of the modern period was dominated by a `reductionist' theory of science. On this view, to explain any event in the world is to reduce it down to fundamental particles, laws, and forces. In recent years reductionism has been dramatically challenged by a radically new paradigm called `emergence'. According to this new theory, natural history reveals the continuous emergence of novel phenomena: new structures and new organisms with new causal powers. Consciousness is yet onemore emergent level in the natural

hierarchy. Many theologians and religious scholars believe that this new paradigm may offer new insights into the nature of God and God's relation to the world.This volume introduces readers to emergence theory, outlines the major arguments in its defence, and summarizes the most powerful objections against it. Written by experts but suitable as an introductory text, these essays provide the best available presentation of this exciting new field and its potentially momentous implications.

Quantum Mind and Social Science - Alexander Wendt 2015-04-23

A unique contribution to the understanding of social science, showing the implications of quantum physics for the nature of human society.

Quantum Theory and Free Will - Henry P. Stapp 2017-06-22

This book explains, in simple but accurate terms, how orthodox quantum mechanics works. The author, a distinguished theoretical physicist, shows how this theory, realistically interpreted, assigns an important role to our conscious free choices. Stapp claims that mainstream biology and neuroscience, despite nearly a century of quantum physics, still stick essentially to failed classical precepts in which mental intentions have no effect upon our bodily actions. He shows how quantum mechanics provides a rational basis for a better understanding of this connection, even allowing an explanation of certain phenomena currently held to be “paranormal”. These ideas have major implications for our understanding of ourselves and our mental processes, and thus also for the meaningfulness of our lives.

The Flip - Jeffrey J. Kripal 2019-03-12

“One of the most provocative new books of the year, and, for me, mindblowing.” —Michael Pollan, author of The Omnivore's Dilemma and How to Change Your Mind “Kripal makes many sympathetic points about the present spiritual state of America. . . . [He] continues to believe that spirituality and science should not contradict each other.” —New York Times Book Review “Kripal prompts us to reflect on our personal assumptions, as well as the shared assumptions that create and maintain our institutions. . . . [His] work will likely become more and more relevant to more and more areas of inquiry as the century unfolds. It may even open up a new space for Americans to reevaluate the personal and cultural narratives they have inherited, and to imagine alternative futures.” —Los Angeles Review of Books A “flip,” writes Jeffrey J. Kripal, is “a reversal of perspective,” “a new real,” often born of an extreme, life-changing experience. The Flip is Kripal’s ambitious, visionary program for unifying the sciences and the humanities to expand our minds, open our hearts, and negotiate a peaceful resolution to the culture wars. Combining accounts of rationalists’ spiritual awakenings and consciousness explorations by philosophers, neuroscientists, and mystics within a framework of the history of science and religion, Kripal compellingly signals a path to mending our fractured world. Jeffrey J. Kripal holds the J. Newton Rayzor Chair in Philosophy and Religious Thought at Rice University and is the associate director of the Center for Theory and Research at the Esalen Institute in Big Sur, California. He has previously taught at Harvard Divinity School and Westminster College and is the author of eight books, including The Flip. He lives in Houston, Texas.

The Universe, Life and Everything - Ton Baggerman 2017-10-12

he way we understand the world we live in is changing. Our traditional understanding is being challenged by developments in physics, including quantum mechanics, and our inability to explain certain complex phenomena such as consciousness. In this book, scholars from a variety of backgrounds discuss how our understanding of our world is expanding to include such phenomena.

Quantum Social Theory for Critical International Relations Theorists - Michael P. A. Murphy 2020-11-13

This book examines the crossroads of quantum and critical approaches to International Relations and argues that these approaches share a common project of uncovering complexity and uncertainty. The “quantum turn” in International Relations theory has produced a number of interesting insights into the complex ways in which our assumptions about the physics of the world around us can limit our understanding of social life. While critique is possible within a Newtonian social science, core assumptions of separability and determinism of classical physics impose limits on what is imaginable. The author argues that by adopting a quantum imaginary, social theory can move beyond its Newtonian limits, and explore two methods for quantizing conceptual models—translation and application. This book is the first introductory book to quantum social theory ideas specifically intended for an audience of critical International Relations.

Wholeness and the Implicate Order - David Bohm 2005-07-12

David Bohm was one of the foremost scientific thinkers and philosophers of our time. Although deeply influenced by Einstein, he was also, more unusually for a scientist, inspired by mysticism. Indeed, in the 1970s and 1980s he made contact with both J. Krishnamurti and the Dalai Lama whose teachings helped shape his work. In both science and philosophy, Bohm's main concern was with understanding the nature of reality in general and of consciousness in particular. In this classic work he develops a theory of quantum physics which treats the totality of existence as an unbroken whole. Writing clearly and without technical jargon, he makes complex ideas accessible to anyone interested in the nature of reality.

Quantum Social Science - Emmanuel Haven 2013-01-17

Written by world experts in the foundations of quantum mechanics and its applications to social science, this book shows how elementary quantum mechanical principles can be applied to decision-making paradoxes in psychology and used in modelling information in finance and economics. The book starts with a thorough overview of some of the salient differences between classical, statistical and quantum mechanics. It presents arguments on why quantum mechanics can be applied outside of physics and defines quantum social science. The issue of the existence of quantum probabilistic effects in psychology, economics and finance is addressed and basic questions and answers are provided. Aimed at researchers in economics and psychology, as well as physics, basic mathematical preliminaries and elementary concepts from quantum mechanics are defined in a self-contained way.

Beyond Physicalism - Edward F. Kelly 2015-02-19

The rise of modern science has brought with it increasing acceptance among intellectual elites of a worldview that conflicts sharply both with everyday human experience and with beliefs widely shared among the world’s great cultural traditions. Most contemporary scientists and philosophers believe that reality is at bottom purely physical, and that human beings are nothing more than extremely complicated biological machines. On such views our everyday experiences of conscious decision-making, free will, and the self are illusory by-products of the grinding of our neural machinery. It follows that mind and personality are necessarily extinguished at death, and that there exists no deeper transpersonal or spiritual reality of any sort. Beyond Physicalism is the product of an unusual fellowship of scientists and humanities scholars who dispute these views. In their previous publication, Irreducible Mind, they argued that physicalism cannot accommodate various well-evidenced empirical phenomena including paranormal or psi phenomena, postmortem survival, and mystical experiences. In this new theory-oriented companion volume they go further by attempting to understand how the world must be constituted in order that these “rogue” phenomena can occur. Drawing upon empirical science, metaphysical

philosophy, and the mystical traditions, the authors work toward an improved “big picture” of the general character of reality, one which strongly overlaps territory traditionally occupied by the world’s institutional religions, and which attempts to reconcile science and spirituality by finding a middle path between the polarized fundamentalisms, religious and scientific, that have dominated recent public discourse. Contributions by: Harald Atmanspacher, Loriliai Biernacki, Bernard Carr, Wolfgang Fach, Michael Grosso, Michael Murphy, David E. Presti, Gregory Shaw, Henry P. Stapp, Eric M. Weiss, and Ian Whicher

Social Theory of International Politics - Alexander Wendt 1999-10-07
Drawing upon philosophy and social theory, Social Theory of International Politics develops a theory of the international system as a social construction. Alexander Wendt clarifies the central claims of the constructivist approach, presenting a structural and idealist worldview which contrasts with the individualism and materialism which underpins much mainstream international relations theory. He builds a cultural theory of international politics, which takes whether states view each other as enemies, rivals or friends as a fundamental determinant. Wendt characterises these roles as 'cultures of anarchy', described as Hobbesian, Lockean and Kantian respectively. These cultures are shared ideas which help shape state interests and capabilities, and generate tendencies in the international system. The book describes four factors which can drive structural change from one culture to another - interdependence, common fate, homogenization, and self-restraint - and examines the effects of capitalism and democracy in the emergence of a Kantian culture in the West.

Physics Meets Philosophy at the Planck Scale - Craig Callender 2001-01-29
Was the first book to examine the exciting area of overlap between philosophy and quantum mechanics with chapters by leading experts from around the world.

Explanation and Integration in Mind and Brain Science - David M. Kaplan 2017
Is the relationship between psychology and neuroscience one of autonomy or mutual constraint and integration? This volume includes new papers from leading philosophers seeking to address this issue by deepening our understanding of the similarities and differences between the explanatory patterns employed across these domains.

YinYang Bipolar Relativity: A Unifying Theory of Nature, Agents and Causality with Applications in Quantum Computing, Cognitive Informatics and Life Sciences - Zhang, Wen-Ran 2011-03-31
YinYang bipolar relativity can trace its philosophical origins to ancient Chinese YinYang cosmology, which claims that everything has two sides or two opposite, but reciprocal, poles or energies. More specifically, this discipline is intended to be a logical unification of general relativity and quantum mechanics. YinYang Bipolar Relativity: A Unifying Theory of Nature, Agents and Causality with Applications in Quantum Computing, Cognitive Informatics and Life Sciences presents real-world applications of YinYang bipolar relativity that focus on quantum computing and agent interaction. This unique work makes complex theoretical topics, such as the ubiquitous effects of quantum entanglement, logically comprehendible to a vast audience.

Decoding Reality - Vlatko Vedral 2018
For a physicist, all the world is information. The Universe and its workings are the ebb and flow of information. We are all transient patterns of information, passing on the recipe for our basic forms to future generations using a four-letter digital code called DNA. In this engaging and mind-stretching account, Vlatko Vedral considers some of the deepest questions about the Universe and considers the implications of interpreting it in terms of information. He explains the

nature of information, the idea of entropy, and the roots of this thinking in thermodynamics. He describes the bizarre effects of quantum behaviour -- effects such as 'entanglement', which Einstein called 'spooky action at a distance', and explores cutting edge work on harnessing quantum effects in hyperfast quantum computers, and how recent evidence suggests that the weirdness of the quantum world, once thought limited to the tiniest scales, may reach into the macro world. Vedral finishes by considering the answer to the ultimate question: where did all of the information in the Universe come from? The answers he considers are exhilarating, drawing upon the work of distinguished physicist John Wheeler. The ideas challenge our concept of the nature of particles, of time, of determinism, and of reality itself. This edition includes a new foreword from the author, reflecting on changes in the world of quantum information since first publication. Oxford Landmark Science books are 'must-read' classics of modern science writing which have crystallized big ideas, and shaped the way we think.

You Matter More Than You Think: Quantum Social Change for a Thriving World - Karen O'Brien 2021-10-22

You Matter More Than You Think introduces a new way of thinking about climate change and social change. It focuses on how the small changes we make can have a big impact, and why each of us matters when it comes to sustainability.

Biocentrism - Robert Lanza 2011

Robert Lanza is one of the most respected scientists in the world a US News and World Report cover story called him a genius and a renegade thinker, even likening him to Einstein. Lanza has teamed with Bob Berman, the most widely read astronomer in the world, to produce Biocentrism, a revolutionary new view of the universe. Every now and then a simple yet radical idea shakes the very foundations of knowledge. The startling discovery that the world was not flat challenged and ultimately changed the way people perceived themselves and their relationship with the world. For most humans of the 15th century, the notion of Earth as ball of rock was nonsense. The whole of Western, natural philosophy is undergoing a sea change again, increasingly being forced upon us by the experimental findings of quantum theory, and at the same time, toward doubt and uncertainty in the physical explanations of the universes genesis and structure. Biocentrism completes this shift in worldview, turning the planet upside down again with the revolutionary view that life creates the universe instead of the other way around. In this paradigm, life is not an accidental byproduct of the laws of physics. Biocentrism takes the reader on a seemingly improbable but ultimately inescapable journey through a foreign universe our own from the viewpoints of an acclaimed biologist and a leading astronomer. Switching perspective from physics to biology unlocks the cages in which Western science has unwittingly managed to confine itself. Biocentrism will shatter the readers ideas of life--time and space, and even death. At the same time it will release us from the dull worldview of life being merely the activity of an admixture of carbon and a few other elements; it suggests the exhilarating possibility that life is fundamentally immortal. The 21st century is predicted to be the Century of Biology, a shift from the previous century dominated by physics. It seems fitting, then, to begin the century by turning the universe outside-in and unifying the foundations of science with a simple idea discovered by one of the leading life-scientists of our age. Biocentrism awakens in readers a new sense of possibility, and is full of so many shocking new perspectives that the reader will never see reality the same way again.

Information—Consciousness—Reality - James B. Glattfelder 2019-04-10

This open access book chronicles the rise of a new scientific paradigm offering novel insights into the age-old enigmas of existence. Over 300 years ago, the human mind discovered

the machine code of reality: mathematics. By utilizing abstract thought systems, humans began to decode the workings of the cosmos. From this understanding, the current scientific paradigm emerged, ultimately discovering the gift of technology. Today, however, our island of knowledge is surrounded by ever longer shores of ignorance.

Science appears to have hit a dead end when confronted with the nature of reality and consciousness. In this fascinating and accessible volume, James Glattfelder explores a radical paradigm shift uncovering the ontology of reality. It is found to be information-theoretic and participatory, yielding a computational and programmable universe.