Quantum Theory And The Schism In Physics From The Postscript To The Logic Of Scientific Discovery 1st Edition By Popper Karl 1992 Paperback

Realism and the Aim of ScienceThe Myth of the Closed MindKnowledge and the Body-Mind ProblemTheory of IdentitiesThe Open UniverseThe Physical Principles of the Quantum TheoryA History of Econometrics in FranceUnended QuestThe Quantum StoryConstructivism in Science EducationInformation —Consciousness—RealitySchrödinger's Philosophy of Quantum MechanicsCompendium of Quantum PhysicsThe Power of ArgumentationThe Infamous BoundaryFoundations of Economic MethodPopper, Objectivity and the Growth of KnowledgeThe Meaning of Quantum TheoryNew ScientistWorld View of Contemporary Physics, TheCompendium of Quantum PhysicsScience and the Human ProspectThe Quantum Mechanics ConundrumQuantum Theory and the Schism in PhysicsQuantum Theory and the Flight from RealismUnderstanding Quantum PhysicsConjectures and RefutationsSchismLife, the Universe, and EverythingImre Lakatos and Theories of Scientific ChangeAbsurdities in Modern PhysicsQuantum Theory and the Schism in Physics. From the Postscript to the Logic of Scientific DiscoveryThe Metaphysics of Quantum TheoryQuantum Theory at the CrossroadsQuantum Theory and the Schism in PhysicsPopper's Views on Natural and Social

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Realism and the Aim of Science

Quantum Theory and the Schism in Physics is one of the three volumes of Karl Popper's Postscript to the Logic of scientific Discovery. The Postscript is the culmination of Popper's work in the philosophy of physics and a new famous attack on subjectivist approaches to philosophy of science. Quantum Theory and the Schism in Physics is the third volume of the Postscript. It may be read independently, but it also forms part of Popper's interconnected argument in the Postscript. It presents Popper's classic statement on quantum physics and offers important insights into his thinking on problems of method within science and physics as a whole.

The Myth of the Closed Mind

Essays discuss relativism, knowledge, creativity, progress, Aristotle, Galileo, cultural pluralism, and reason

Knowledge and the Body-Mind Problem

François Laruelle proposes a theory of identity rooted in scientific notions of symmetry and chaos, emancipating thought from the philosophical paradigm of Being and reconnecting it with the real

world. Unlike most contemporary philosophers, Laruelle does not believe language, history, and the world shape identity but that identity determines our relation to these phenomena. Both critical and constructivist, Theory of Identities finds fault with contemporary philosophy's reductive relation to science and its attachment to notions of singularity, difference, and multiplicity, which extends this crude approach. Laruelle's new theory of science, its objects, and philosophy, introduces an original vocabulary to elaborate the concepts of determination, fractality, and artificial philosophy, among other ideas, grounded in an understanding of the renewal of identity. Laruelle's work repairs the rift between philosophical and scientific inquiry and rehabilitates the concept of identity that continental philosophers have widely criticized. His argument positions him clearly against Deleuze, Badiou, the new materialists, and other thinkers who stray too far from empirical approaches that might revitalize philosophy's practical applications.

Theory of Identities

Explains Popper's views on natural and social science, ranging in Part I from metaphysical considerations to his interpretation of the formalism of quantum mechanics, and in Part II from the errors of historicism and holism to the roles of theoretical models, institutions, traditions and history.

The Open Universe

At the age of eight, Karl Popper was puzzling over the idea of infinity and by fifteen was beginning to take a keen interest in his father's well-stocked library of books. Unended Quest recounts these moments and many others in the life of one of the most influential thinkers of the twentieth century, providing an indispensable account of the ideas that influenced him most. As an introduction to Popper's philosophy, Unended Quest also shines. Popper lucidly explains the central ideas in his work, making this book ideal for anyone coming to Popper's life and work for the first time.

The Physical Principles of the Quantum Theory

This book is a critical introduction to the long-standing debate concerning the conceptual foundations of quantum mechanics and the problems it has posed for physicists and philosophers from Einstein to the present. Quantum theory has been a major infulence on postmodernism, and presents significant problems for realists. Keeping his own realist position in check, Christopher Norris subjects a wide range of key opponents and supporters of realism to a high and equal level of scrutiny. With a characteristic combination of rigour and intellectual generosity, he draws out the merits and weaknesses from opposing arguments. In a sequence of closely argued chapters, Norris examines the premises of orthodox quantum theory, as developed most influentially by Bohr and Heisenberg, and its impact on varous philosophical developments. These include the ideas developed by

W.V Quine, Thomas Kuhn, Michael Dummett, Bas van Fraassen, and Hilary Puttnam. In each case, Norris argues, these thinkers have been influenced by the orthodox construal of quantum mechanics as requiring drastic revision of principles which had hitherto defined the very nature of scientific method, causal explanati and rational enquiry. Putting the case for a realist approach which adheres to well-tried scientific principles of causal reasoning and inference to the best explanation, Christopher Norris clarifies these debates to a non-specialist readership and scholars of philosophy, science studies and the philosophy of science alike. Quantum Theory and the Flight From Realism suggests that philosophical reflection can contribute to a better understanding of these crucial, current issues.

A History of Econometrics in France

The race is on to construct the first quantum code breaker, as the winner will hold the key to the entire Internet. From international, multibillion-dollar financial transactions to top-secret government communications, all would be vulnerable to the secret-code-breaking ability of the quantum computer. Written by a renowned quantum physicist closely involved in the U.S. government's development of quantum information science, Schrödinger's Killer App: Race to Build the World's First Quantum Computer presents an inside look at the government's quest to build a quantum computer capable of solving complex mathematical problems and hacking the public-key encryption codes used to

secure the Internet. The "killer application" refers to Shor's quantum factoring algorithm, which would unveil the encrypted communications of the entire Internet if a quantum computer could be built to run the algorithm. Schrödinger's notion of quantum entanglement—and his infamous cat—is at the heart of it all. The book develops the concept of entanglement in the historical context of Einstein's 30-year battle with the physics community over the true meaning of quantum theory. It discusses the remedy to the threat posed by the quantum code breaker: quantum cryptography, which is unbreakable even by the quantum computer. The author also covers applications to other important areas, such as quantum physics simulators, synchronized clocks, quantum search engines, quantum sensors, and imaging devices. In addition, he takes readers on a philosophical journey that considers the future ramifications of quantum technologies. Interspersed with amusing and personal anecdotes, this book presents quantum computing and the closely connected foundations of quantum mechanics in an engaging manner accessible to non-specialists. Requiring no formal training in physics or advanced mathematics, it explains difficult topics, including quantum entanglement, Schrödinger's cat, Bell's inequality, and quantum computational complexity, using simple analogies.

Unended Quest

Nobel Laureate discusses quantum theory, uncertainty, wave mechanics, work of Dirac,

Schroedinger, Compton, Einstein, others. "An authoritative statement of Heisenberg's views on this aspect of the quantum theory." — Nature.

The Quantum Story

Utterly beautiful. Profoundly disconcerting. Quantum theory is quite simply the most successful account of the physical universe ever devised. Its concepts underpin much of the twenty-first century technology that we now take for granted. But at the same time it has completely undermined our ability to make sense of the world at its most fundamental level. Niels Bohr claimed that anybody who is not shocked by the theory has not understood it. The American physicist Richard Feynman went further: he claimed that nobody understands it. The Quantum Story begins in 1900, tracing a century of game-changing science. Popular science writer Jim Baggott first shows how, over the space of three decades, Einstein, Bohr, Heisenberg, and others formulated and refined the theory--and opened the floodgates. Indeed, since then, a torrent of ideas has flowed from the world's leading physicists, as they explore and apply the theory's bizarre implications. To take us from the story's beginning to the present day, Baggott organizes his narrative around forty turning-point moments of discovery. Many of these are inextricably bound up with the characters involved--their rivalries and their collaborations, their arguments and, not least, their excitement as they sense that they are redefining what reality means. Through the mix of story and science, we experience their breathtaking

leaps of theory and experiment, as they uncover such undreamed of and mind-boggling phenomenon as black holes, multiple universes, quantum entanglement, the Higgs boson, and much more. Brisk, clear, and compelling, The Quantum Story is science writing at its best. A compelling look at the one-hundred-year history of quantum theory, it illuminates the idea as it reveals how generations of physicists have grappled with this monster ever since.

Constructivism in Science Education

“It’s like talking to a brick wall” and “We’ll have to agree to disagree” are popular sayings referring to the frustrating experience of discussing issues with people who seem to be beyond the reach of argument. It’s often claimed that some people—fundamentalists or fanatics—are indeed sealed off from rational criticism. And every month new pop psychology books appear, describing the dumb ways ordinary people make decisions, as revealed by psychological experiments. The conclusion is that all or most people are fundamentally irrational. Ray Scott Percival sets out to demolish the whole notion of the closed mind and of human irrationality. There is a difference between making mistakes and being irrational. Though humans are prone to mistakes, they remain rational. In fact, making mistakes is a sign of rationality: a totally non-rational entity could not make a mistake. Rationality does not mean absence of error; it means the possibility of correcting error in the light of criticism. In this sense, all human beliefs are rational: they are

all vulnerable to being abandoned when shown to be faulty. Percival agrees that people cling stubbornly to their beliefs, but he maintains that not being too ready to abandon one's beliefs is rational.

Information—Consciousness—Reality

--Has modern science made philosophy obsolete? --Is the soul real? --Do we have a free will? --Why should we be moral? --Does God exist, and if so, why is there so much pain and suffering in the world? --What is the relation between faith and reason? Ric Machuga takes a holistic approach to these questions. No philosophical idea, no matter how small, can live alone. Ideas always gain their force, power, and life from their surroundings--their "ecosystem." The ecosystem of ideas defended in this book comes from the ancient Greek philosopher Aristotle and his medieval interpreter, Thomas Aquinas. The ongoing relevance of their philosophical thought to twenty-first century issues is opened up in fascinating ways. Life, the Universe, and Everything is the product of thirty years of teaching introductory courses in philosophy. Assuming no prior background, it only requires of readers an enquiring mind and a willingness to think carefully. An ideal guide to the big questions we face.

Schrödinger's Philosophy of Quantum Mechanics

Although early twentieth century physics produced two revolutionary new conceptions of the nature of the physical universe—relativity theory and quantum

theory—more recent developments in the physical sciences have made it imperative for physicists to re-examine the older world view of physics and the assumptions upon which it was based. However, theorizing about the nature and status of reality has been the province of philosophers for centuries. Philosophers, trained in metaphysics, provided a different perspective for viewing and a unique method for solving some of these problems. Ideally, therefore, both philosophers and physicists should work together in dialogue fashion on this important issue. These two groups come together for the first time in this book to examine the questions: What is the world view of contemporary physics? Does it need a new metaphysics? If so, what kind of metaphysics does it need? Internationally known scholars, including Ilya Prigogine and Fritjof Capra, who are recognized as experts in this interdisciplinary field, address such related topics as the nature of the mind, our place in society, and the nature of ethics.

Compendium of Quantum Physics

Realism and the Aim of Science is one of the three volumes of Karl Popper's Postscript to the Logic of scientific Discovery. The Postscript is the culmination of Popper's work in the philosophy of physics and a new famous attack on subjectivist approaches to philosophy of science. Realism and the Aim of Science is the first volume of the Postcript. Popper here formulates and explains his non-justificationist theory of knowledge: science aims at true explanatory theories, yet it can never prove, or justify, any theory

to be true, not even if is a true theory. Science must continue to question and criticise all its theories, even those that happen to be true. Realism and the Aim of Science presents Popper's mature statement on scientific knowledge and offers important insights into his thinking on problems of method within science.

The Power of Argumentation

Due to its extraordinary predictive power and the great generality of its mathematical structure, quantum theory is able, at least in principle, to describe all the microscopic and macroscopic properties of the physical world, from the subatomic to the cosmological level. Nevertheless, ever since the Copen hagen and Gottingen schools in 1927 gave it the definitive formu lation, now commonly known as the orthodox interpretation, the theory has suffered from very serious logical and epistemologi cal problems. These shortcomings were immediately pointed out by some of the principal founders themselves of quantum theory, to wit, Planck, Einstein, Ehrenfest, Schrodinger, and de Broglie, and by the philosopher Karl Popper, who assumed a position of radical criticism with regard to the standard formulation of the theory. The aim of the participants in the workshop on Open Questions in Quantum Physics, which was held in Bari (Italy), in the Department of Physics of the University, during May 1983 and whose Proceedings are collected in the present volume, accord ingly was to discuss the formal, the physical and the epistemo logical difficulties of quantum theory in the light of recent

crucial developments and to propose some possible resolutions of three basic conceptual dilemmas, which are posed respectively ~: (a) the physical developments of the Einstein-Podolsky-Rosen argument and Bell's theorem, i. e.

The Infamous Boundary

Foundations of Economic Method

Popper, Objectivity and the Growth of Knowledge

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.

The Meaning of Quantum Theory

“The most exciting intellectual adventure I've been on since reading Robert Pirsig’s Zen and the Art of Motorcycle Maintenance.” —Christopher Lehmann-Haupt, New York Times Gary Zukav’s timeless, humorous, New York Times bestselling masterpiece, The Dancing Wu Li Masters, is arguably the most widely acclaimed introduction to quantum physics ever written. Scientific American raves: “Zukav is such a skilled expositor, with such an amiable style, that it is hard to imagine a layman who would not find his book enjoyable and informative.” Accessible, edifying, and endlessly entertaining, The Dancing Wu Li Masters is back in a beautiful new edition—and the doors to the fascinating, dazzling, remarkable world of quantum physics are opened to all once again, no previous mathematical or technical expertise required.

New Scientist

This book is a collection of essays on the philosophy of Karl Popper written by some outstanding contributors from all the world around. Most of them are Popperians, some were Sir Karl's students in his famous seminar at the London School of Economics and his research assistants. All have written books or papers on Popper's philosophy and are notable professors at their universities. So, from a well-acquainted view of Poppers philosophy the book deals with present day philosophical problems and offers interesting interpretations. The first part is devoted to

political philosophy, and the second to philosophy of science. The volume is of interest for all those concerned not only in Popper's philosophy but also in some the main scientific and political problems of today.

World View of Contemporary Physics, The

Translation of the Fifth Solvay Congress proceedings, for graduate students and researchers in physics and quantum theory.

Compendium of Quantum Physics

First published in 1995. Routledge is an imprint of Taylor & Francis, an informa company.

Science and the Human Prospect

John H. Sceski argues that Karl Popper's philosophy offers a radical treatment of objectivity that can reconcile freedom and progress in a manner that preserves the best elements of the Enlightenment tradition. His book traces the development of Popper's account of objectivity by examining his original contributions to key issues in the philosophy of science. Popper's early confrontation with logical positivism, his rarely discussed four-fold treatment of the problem of induction, and his theory of propensities and evolutionary epistemology are linked in a novel way to produce a coherent and philosophically relevant picture of objectivity. Sceski

also explores and clarifies many central issues in the philosophy of science such as probabilistic support, verisimilitude, and the relationship between special relativity and indeterminism. He concludes that Popper's account of objectivity can best bridge the gap between Enlightenment aims for science and freedom and post-modern misgivings about 'truth', by developing a philosophy that is non-foundationalist yet able to account for the growth of knowledge.

The Quantum Mechanics Conundrum

First published in 1988. Routledge is an imprint of Taylor & Francis, an informa company.

Quantum Theory and the Schism in Physics

China's entry into the World Trade Organization (WTO) in 2001 was heralded as historic, and for good reason: the world's most populous nation was joining the rule-based system that has governed international commerce since World War II. But the full ramifications of that event are only now becoming apparent, as the Chinese economic juggernaut has evolved in unanticipated and profoundly troublesome ways. In this book, journalist Paul Blustein chronicles the contentious process resulting in China's WTO membership and the transformative changes that followed, both good and bad - for China, for its trading partners, and for the global trading system as a whole. The book recounts how China opened its markets and underwent far-reaching reforms that

fuelled its economic takeoff, but then adopted policies - a cheap currency and heavy-handed state intervention - that unfairly disadvantaged foreign competitors and circumvented WTO rules. Events took a potentially catastrophic turn in 2018 with the eruption of a trade war between China and the United States, which has brought the trading system to a breaking point. Regardless of how the latest confrontation unfolds, the world will be grappling for decades with the challenges posed by China Inc.

Quantum Theory and the Flight from Realism

Understanding Quantum Physics

This comprehensive volume gives a balanced and systematic treatment of both the interpretation and the mathematical-conceptual foundations of quantum mechanics. It is written in a pedagogical style and addresses many thorny problems of fundamental physics. The first aspect concerns Interpretation. The author raises the central problems: formalism, measurement, non-locality, and causality. The main positions on these subjects are presented and critically analysed. The aim is to show that the main schools can converge on a core interpretation. The second aspect concerns Foundations. Here it is shown that the whole theory can be grounded on information theory. The distinction between information and signal leads us to integrating quantum mechanics and relativity. Category theory is presented and its

significance for quantum information shown; the logic and epistemological bases of the theory are assessed. Of relevance to all physicists and philosophers with an interest in quantum theory and its foundations, this book is destined to become a classic work.

Conjectures and Refutations

Schism

How happy it is to recall Imre Lakatos. Now, fifteen years after his death, his intelligence, wit, generosity are vivid. In the Preface to the book of Essays in Memory of Imre Lakatos (Boston Studies, 39, 1976), the editors wrote: Lakatos was a man in search of rationality in all of its forms. He thought he had found it in the historical development of scientific knowledge, yet he also saw rationality endangered everywhere. To honor Lakatos is to honor his sharp and aggressive criticism as well as his humane warmth and his quick wit. He was a person to love and to struggle with. The book before us carries old and new friends of that Lakatosian spirit further into the issues which he wanted to investigate. That the new friends include a dozen scientific, historical and philosophical scholars from Greece would have pleased Lakatos very much, and with an essay from China, he would have smiled all the more. But the key lies in the quality of these papers, and in the imaginative organization of the conference at Thessaloniki in summer 1986 which worked so well.

Life, the Universe, and Everything

With contributions by leading quantum physicists, philosophers and historians, this comprehensive A-to-Z of quantum physics provides a lucid understanding of key concepts of quantum theory and experiment. It covers technical and interpretational aspects alike, and includes both traditional and new concepts, making it an indispensable resource for concise, up-to-date information about the many facets of quantum physics.

Imre Lakatos and Theories of Scientific Change

Written in an informal yet substantive style that is a joy to read, this book provides a uniquely engaging, in-depth introduction to the concepts of quantum physics and their practical implementation, and is filled with clear, thorough explanations that help readers develop insight into physical ideas and master techniques of problem-solving using quantum mechanics. Fully explores the concepts and strategies of quantum mechanics, showing the connections among the physical concepts that govern the atomic and sub-atomic domain of matter, and examining how these concepts manifest themselves in the mathematical machinery of quantum mechanics. Focuses on the explanations and motivations of the postulates that underlie the machinery of quantum mechanics, and applies simple, single-particle systems in one dimension. Illuminates discussions of ideas and techniques with a multitude of examples

that show not just the answers but also the reasoning behind them, and adds dimension to the subject with historical, biographical and philosophical references throughout. Designed for a wide range of readers interested in various branches of physics and engineering physics.

Absurdities in Modern Physics

The interplay between non-relativistic quantum theory and metaphysics has generated radically opposed interpretations for quantum theory: Niels Bohr's "orthodox" interpretation, and Einstein's "realist" approach. This debate in turn fostered the classical first-generation paradoxes of quantum theory: Schrodinger's Cat and the Einstein-Podolsky-Rosen paradoxes. More recently, a range of new paradoxes has emerged from the work of J.S. Bell. This book outlines the contours of these debates and presents an interpretation of quantum theory which, while metaphysically realist, resolves most of the paradoxes."

Quantum Theory and the Schism in Physics. From the Postscript to the Logic of Scientific Discovery

This book is the final outcome of two projects. My first project was to publish a set of texts written by Schrodinger at the beginning of the 1950's for his seminars and lectures at the Dublin Institute for Advanced Studies. These almost completely forgotten texts contained important insights into the

interpretation of quantum mechanics, and they provided several ideas which were missing or elusively expressed in SchrOdinger's published papers and books of the same period. However, they were likely to be misinterpreted out of their context. The problem was that current scholarship could not help very much the reader of these writings to figure out their significance. The few available studies about SchrOdinger's interpretation of quantum mechanics are generally excellent, but almost entirely restricted to the initial period 1925-1927. Very little work has been done on Schrodinger's late views on the theory he contributed to create and develop. The generally accepted view is that he never really recovered from his interpretative failure of 1926-1927, and that his late reflections (during the 1950's) are little more than an expression of his rising nostalgia for the lost ideal of picturing the world, not to say for some favourite traditional picture. But the content and style of Schrodinger's texts of the 1950's do not agree at all with this melancholic appraisal; they rather set the stage for a thorough renewal of accepted representations. In order to elucidate this paradox, I adopted several strategies.

The Metaphysics of Quantum Theory

Quantum Theory at the Crossroads

Many consider Foundations of Economic Method to be Lawrence Boland's best work. This updated edition is radically changed from the original and will be much

appreciated by thinkers within economics. The book positions methodology vis-à-vis the current practice of economists and is all the better for it. Yet another book that not only deserves to be read by those within the field of economic methodology, but also by those involved in economics at all. Boland is back.

Quantum Theory and the Schism in Physics

"Provides (an)accurate portrait of the essence of the disputes, both epistemological and technical, that characterize contemporary inquiry. This book will profit any reader-physicist, mathematician, philosopher, or civilian-who wants a comprehensive and intelligible survey of this pesky episode in fundamental physical theory."-CHOICE "I have no hesitation in recommending this book to anyone interested in the history, philosophy or sociology of science, and it is worth adding to the library shelf on quantum theory."-PHYSICS WORLD

Popper's Views on Natural and Social Science

With contributions by leading quantum physicists, philosophers and historians, this comprehensive A-to-Z of quantum physics provides a lucid understanding of key concepts of quantum theory and experiment. It covers technical and interpretational aspects alike, and includes both traditional and new concepts, making it an indispensable resource for concise, up-to-date information about the many facets of quantum

physics.

Farewell to Reason

Why is quantum theory so difficult to understand? In this book, written for both undergraduate and graduate students of chemistry and physics, the author looks at the continuing debate about the meaning of quantum theory. The historical development of the theory is traced from the turn of the century through to the 1930s, and the famous debate between Niels Bohr and Albert Einstein. The book examines in detail the arguments that quantum theory is incomplete, as made by Einstein, Boris Podolsky, and Nathan Rosen; the development of Bell's theorem; and crucial experimental tests performed in the early 1980s. Alternative interpretations -- pilot waves, quantum gravity, consciousness, and many worlds -- are described in the closing chapter. This is an ideal text for advanced undergraduate and graduate students of chemistry and physics, and for academic scientists not involved in mainstream quantum theory.

Schrödinger's Killer App

This text challenges the traditional view of the history of econometrics and provides a more complete story. In doing so, the book sheds light on the hitherto under-researched contribution of French thinkers to econometrics. Fascinating and authoritative, it is a comprehensive overview of what went on to be one of the defining subsets within the economics profession.

Le Gall explains how econometric ideas developed from, and were inspired by philosophical worldviews and scientific paradigms from the nineteenth century. Exploring the methodology of French authors like Cournot, Briaune and Regnault he demonstrates how they were influenced by the natural sciences of their time, rooted as they were in a worldview where natural order and laws played a central role and how, when an organized discipline emerged at the start of the Twentieth century, these econometric ideas intermingled with new worldviews associated with the complexity of the economy. This book is essential reading for postgraduate students and researchers in the history of economic thought, economic methodology and the history of science as well as econometricians at all levels.

The Dancing Wu Li Masters

Open Questions in Quantum Physics

Constructivism is one of the most influential theories in contemporary education and learning theory. It has had great influence in science education. The papers in this collection represent, arguably, the most sustained examination of the theoretical and philosophical foundations of constructivism yet published. Topics covered include: orthodox epistemology and the philosophical traditions of constructivism; the relationship of epistemology to learning theory; the connection between philosophy and pedagogy in constructivist practice; the

difference between radical and social constructivism, and an appraisal of their epistemology; the strengths and weaknesses of the Strong Programme in the sociology of science and implications for science education. The book contains an extensive bibliography. Contributors include philosophers of science, philosophers of education, science educators, and cognitive scientists. The book is noteworthy for bringing this diverse range of disciplines together in the examination of a central educational topic.