Psychology is the study of thinking, and cognitive science is the interdisciplinary investigation of mind and intelligence that also includes philosophy, artificial intelligence, neuroscience, linguistics, and anthropology. In these investigations, many philosophical issues arise concerning methods and central concepts. The Handbook of Philosophy of Psychology and Cognitive Science contains 16 essays by leading
philosophers of science that illuminate the nature of the theories and explanations used in the investigation of minds. Topics discussed include representation, mechanisms, reduction, perception, consciousness, language, emotions, neuroscience, and evolutionary psychology. Comprehensive coverage of philosophy of psychology and cognitive science. Distinguished contributors: leading philosophers in this area. Contributions closely tied to relevant scientific research. Both an anthology and an introductory textbook, Philosophy of Science: The Central Issues offers instructors and students a comprehensive anthology of fifty-two primary texts by leading philosophers in the field and provides extensive editorial commentary that places the readings in a wide philosophical context. Current Controversies in Philosophy of Science asks twelve philosophers to debate six questions that are driving contemporary work in this area of philosophy. The questions are: I. Are Boltzmann Brains Bad? II. Does Mathematical Explanation Require Mathematical Truth? III. Does Quantum Mechanics Suggest Spacetime is Nonfundamental? IV. Is Evolution Fundamental When It Comes to Defining Biological Ontology? V. Is Chance Ontologically Fundamental? VI. Are Sexes Natural Kinds? These debates explore the philosophical foundations of particular scientific disciplines, while also examining more general issues in the philosophy of science. The result is a book that’s perfect for the advanced philosophy student, building up their knowledge of the foundations of the field and engaging with its cutting-edge questions. Preliminary descriptions of each chapter, annotated lists of further readings for each controversy, and study questions for each chapter help provide clearer and richer snapshots of active controversies for all readers. Any serious student attempting to better understand the nature, methods and justification of science will value Alex Rosenberg’s updated and substantially revised Third Edition of Philosophy of Science: A Contemporary Introduction. Weaving together lucid explanations and clear analyses, the volume is a much-used, thematically oriented introduction to the field. New features of the Third Edition include more coverage of the history of the philosophy of science, more fully developed material on the metaphysics of causal and physical necessity, more
background on the contrast between empiricism and rationalism in science, and new material on the
structure of theoretical science (with expanded coverage of Newtonian and Darwinian theories and
models) and the realism/antirealism controversy. Rosenberg also divides the Third Edition into fifteen
chapters, aligning each chapter with a week in a standard semester-long course. Updated Discussion
Questions, Glossary, Bibliography and Suggested Readings lists at the end of each chapter will make
the Third Edition indispensable, either as a comprehensive stand-alone text or alongside the many wide-
ranging collections of articles and book excerpts currently available. Read our interview with Alex
Rosenberg, What exactly is philosophy of science – and why does it matter? here:
www.routledge.com/u/alexrosenberg

How does science work? Does it tell us what the world is “really”
like? What makes it different from other ways of understanding the universe? In Theory and Reality,
Peter Godfrey-Smith addresses these questions by taking the reader on a grand tour of more than a
hundred years of debate about science. The result is a completely accessible introduction to the main
themes of the philosophy of science. Examples and asides engage the beginning student, a glossary of
terms explains key concepts, and suggestions for further reading are included at the end of each
chapter. Like no other text in this field, Theory and Reality combines a survey of recent history of the
philosophy of science with current key debates that any beginning scholar or critical reader can follow.
The second edition is thoroughly updated and expanded by the author with a new chapter on truth,
simplicity, and models in science. This Very Short Introduction provides a concise overview of the main
themes of contemporary philosophy of science. After a short history, the author goes on to investigate
the nature of scientific reasoning, scientific explanation and more. Scientists have used models for
hundreds of years as a means of describing phenomena and as a basis for further analogy. In Scientific
Models in Philosophy of Science, Daniela Bailer-Jones assembles an original and comprehensive
philosophical analysis of how models have been used and interpreted in both historical and
contemporary contexts. Bailer-Jones delineates the many forms models can take (ranging from
equations to animals; from physical objects to theoretical constructs), and how they are put to use. She examines early mechanical models employed by nineteenth-century physicists such as Kelvin and Maxwell, describes their roots in the mathematical principles of Newton and others, and compares them to contemporary mechanistic approaches. Bailer-Jones then views the use of analogy in the late nineteenth century as a means of understanding models and to link different branches of science. She reveals how analogies can also be models themselves, or can help to create them. The first half of the twentieth century saw little mention of models in the literature of logical empiricism. Focusing primarily on theory, logical empiricists believed that models were of temporary importance, flawed, and awaiting correction. The later contesting of logical empiricism, particularly the hypothetico-deductive account of theories, by philosophers such as Mary Hesse, sparked a renewed interest in the importance of models during the 1950s that continues to this day. Bailer-Jones analyzes subsequent propositions of: models as metaphors; Kuhn's concept of a paradigm; the Semantic View of theories; and the case study approaches of Cartwright and Morrison, among others. She then engages current debates on topics such as phenomena versus data, the distinctions between models and theories, the concepts of representation and realism, and the discerning of falsities in models.Philosophy of Chemistry investigates the foundational concepts and methods of chemistry, the science of the nature of substances and their transformations. This groundbreaking collection, the most thorough treatment of the philosophy of chemistry ever published, brings together philosophers, scientists and historians to map out the central topics in the field. The 33 articles address the history of the philosophy of chemistry and the philosophical importance of some central figures in the history of chemistry; the nature of chemical substances; central chemical concepts and methods, including the chemical bond, the periodic table and reaction mechanisms; and chemistry's relationship to other disciplines such as physics, molecular biology, pharmacy and chemical engineering. This volume serves as a detailed introduction for those new to the field as well as a rich source of new insights and potential research
agendas for those already engaged with the philosophy of chemistry. Provides a bridge between philosophy and current scientific findings. Encourages multi-disciplinary dialogue. Covers theory and applications.

In recent decades, cognitive science has revolutionised our understanding of the workings of the human mind. Philosophy has made a major contribution to cognitive science and has itself been hugely influenced by its development. This dynamic book explores the philosophical significance of cognitive science and examines the central debates that have enlivened its history. In a wide-ranging and comprehensive account of the topic, philosopher M.J. Cain discusses the historical origins of cognitive science and its philosophical underpinnings; the nature and role of representations in cognition; the architecture of the mind and the modularity thesis; the nature of concepts; knowledge of language and its acquisition; perception; and the relationship between the brain and cognition. Cain draws upon an extensive knowledge of empirical developments and their philosophical interpretation.

He argues that although the field has generated some challenging new views in recent years, many of the core ideas that initiated its birth are still to be taken seriously. Clearly written and incisively argued, The Philosophy of Cognitive Science will appeal to any student or researcher interested in the workings of the mind.

Science has made a huge impact on human society over hundreds of years, but how does it work? How do scientists do the things they do? How do they come up with the theories? How do they test them? How do they use these theories to explain phenomena? How do they draw conclusions from them about how the world might be? Now updated, this second edition of Philosophy of Science: Key Concepts looks at each of these questions and more. Taking in turn the fundamental theories, processes and views lying at the heart of the philosophy of science, this engaging introduction illuminates the scientific practice and provides a better appreciation of how science actually works. It features:

- Chapters on discovery, evidence, verification and falsification, realism and objectivity - Accessible overviews of work of key thinkers such as Galileo, Einstein and Mullis - A new chapter on explanation - An extended range of easy-to-follow and contemporary examples to help explain more
technical ideas - Study exercises, an annotated bibliography and suggestions of Where to Go Next Succinct and approachable, Philosophy of Science: Key Concepts outlines some of the most central and important scientific questions, problems and arguments without assuming prior knowledge of philosophy. This enjoyable introduction is the perfect starting point for anyone looking to understand how and why science has shaped and changed our view of the world. The Philosophy of Social Science: A Contemporary Introduction examines the perennial questions of philosophy by engaging with the empirical study of society. The book offers a comprehensive overview of debates in the field, with special attention to questions arising from new research programs in the social sciences. The text uses detailed examples of social scientific research to motivate and illustrate the philosophical discussion. Topics include the relationship of social policy to social science, interpretive research, action explanation, game theory, social scientific accounts of norms, joint intentionality, reductionism, causal modeling, case study research, and experimentation. Well-being, happiness and quality of life are now established objects of social and medical research. Does this science produce knowledge that is properly about well-being? What sort of well-being? The definition and measurement of these objects rest on assumptions that are partly normative, partly empirical and partly pragmatic, producing a great diversity of definitions depending on the project and the discipline. This book, written from the perspective of philosophy of science, formulates principles for the responsible production and interpretation of this diverse knowledge. Traditionally, philosophers' goal has been a single concept of well-being and a single theory about what it consists in. But for science this goal is both unlikely and unnecessary. Instead the promise and authority of the science depends on it focusing on the well-being of specific kinds of people in specific contexts. Skeptical arguments notwithstanding, this contextual well-being can be measured in a valid and credible way - but only if scientists broaden their methods to make room for normative considerations and address publicly and inclusively the value-based conflicts that inevitably arise when a measure of well-being is adopted. The science of well-being can be
normative, empirical and objective all at once, provided that we line up values to science and science to values. Any serious student attempting to better understand the nature, methods, and justification of science will value Alex Rosenberg and Lee Mclntyre’s updated and substantially revised fourth edition of Philosophy of Science: A Contemporary Introduction. Weaving lucid explanations with clear analyses, the volume is a much-used, thematically oriented introduction to the field. The fourth edition has been thoroughly rewritten based on instructor and student feedback, to improve readability and accessibility, without sacrificing depth. It retains, however, all of the logically structured, extensive coverage of earlier editions, which a review in the journal Teaching Philosophy called “the industry standard” and “essential reading.” Key Features of the Fourth Edition: Revised and rewritten for readability based on feedback from student and instructor surveys. Updated text on the problem of underdetermination, social science, and the realism/antirealism debate. Improved continuity between chapters. Revised and updated Study Questions and annotated Suggested Readings at the end of each chapter. Updated Bibliography. For a list of relevant online primary sources, please visit: www.routledge.com/9781138331518. The Routledge Companion to Philosophy of Science is an indispensable reference source and guide to the major themes, debates, problems and topics in philosophy of science. It contains sixty-two specially commissioned entries by a leading team of international contributors. Organized into four parts it covers: historical and philosophical context debates concepts the individual sciences. The Routledge Companion to Philosophy of Science addresses all of the essential topics. This handbook provides both an overview of state-of-the-art scholarship in philosophy of science, as well as a guide to new directions in the discipline. Section I contains broad overviews of the main lines of research and the state of established knowledge in six principal areas of the discipline, including computational, physical, biological, psychological and social sciences, as well as general philosophy of science. Section II covers what are considered to be the traditional topics in the philosophy of science, such as causation, probability, models, ethics and values,
and explanation. Section III identifies new areas of investigation that show promise of becoming important areas of research, including the philosophy of astronomy and astrophysics, data, complexity theory, neuroscience, simulations, post-Kuhnian philosophy, post-empiricist epistemology, and emergence. Most chapters are accessible to scientifically educated non-philosophers as well as to professional philosophers, and the contributors - all leading researchers in their field -- bring diverse perspectives from the North American, European, and Australasian research communities. This volume is an essential resource for scholars and students.

Using formal logic, Reconstructing the Past seeks to clarify and resolve the methodological issues that arise when biologists try to answer such questions as whether human beings are more closely related to chimps than they are to gorillas. It explores the case for considering the philosophical idea of simplicity/parsimony as a useful principle for evaluating taxonomic theories of evolutionary relationships. Bringing together philosophy, biology, and statistics, Sober builds a general framework for understanding the circumstances in which parsimony makes sense as a tool of phylogenetic inference.

Elliott Sober is Professor of Philosophy at the University of Wisconsin, Madison, and the author of The Nature of Selection. The book is a translation of the second edition of a much-used and research-based Chinese textbook. As a succinct and issue-based introduction to the Western philosophy of science, the book brings eight focal issues in the field to the fore and augments each topic by incorporating Chinese perspectives. Followed by an overview of the historical framework and logical underpinnings of the philosophy of science, the book thoroughly discusses eight issues in the discipline: (1) the criteria of cognitive meaning, (2) induction and confirmation, (3) scientific explanation, (4) theories of scientific growth, (5) the demarcation between science and pseudoscience, (6) scientific realism and empiricism; (7) the philosophy of scientific experimentation, (8) science and value. Not confined to Western mainstream discourse in this field, the book also introduces voices of Chinese philosophers of note and adopts a stance that productively combines logical empiricism and Kuhnianism, both of which tend to be covered in less
detail by many English language textbooks. In the final chapter the author offers a prognosis regarding the future of the discipline based on recent trends. This book will be of value to students who study philosophy of science and hope to gain a better understanding of science and technology. A short and accessible introduction to philosophy of science for students and researchers across the life sciences. This book traces the development during the 20th century of four central themes in the philosophy of science. The themes, chosen for their importance are expounded in a way which does not presuppose any previous knowledge of philosophy or science. The book thus constitutes an excellent introduction to the philosophy of science. This is a concise, comprehensive, and accessible introduction to the philosophy of biology written by a leading authority on the subject. Geared to philosophers, biologists, and students of both, the book provides sophisticated and innovative coverage of the central topics and many of the latest developments in the field. Emphasizing connections between biological theories and other areas of philosophy, and carefully explaining both philosophical and biological terms, Peter Godfrey-Smith discusses the relation between philosophy and science; examines the role of laws, mechanistic explanation, and idealized models in biological theories; describes evolution by natural selection; and assesses attempts to extend Darwin's mechanism to explain changes in ideas, culture, and other phenomena. Further topics include functions and teleology, individuality and organisms, species, the tree of life, and human nature. The book closes with detailed, cutting-edge treatments of the evolution of cooperation, of information in biology, and of the role of communication in living systems at all scales. A authoritative and up-to-date, this is an essential guide for anyone interested in the important philosophical issues raised by the biological sciences. Scientists use concepts and principles that are partly specific for their subject matter, but they also share part of them with colleagues working in different fields. Compare the biological notion of a 'natural kind' with the general notion of 'confirmation' of a hypothesis by certain evidence. Or compare the physical principle of the 'conservation of energy' and the general principle of 'the unity of science'. Scientists agree that all
such notions and principles aren't as crystal clear as one might wish. An important task of the philosophy of the special sciences, such as philosophy of physics, of biology and of economics, to mention only a few of the many flourishing examples, is the clarification of such subject specific concepts and principles. Similarly, an important task of 'general' philosophy of science is the clarification of concepts like 'confirmation' and principles like 'the unity of science'. It is evident that clarification of concepts and principles only makes sense if one tries to do justice, as much as possible, to the actual use of these notions by scientists, without however following this use slavishly. That is, occasionally a philosopher may have good reasons for suggesting to scientists that they should deviate from a standard use. Frequently, this amounts to a plea for differentiation in order to stop debates at cross-purposes due to the conflation of different meanings. While the special volumes of the series of Handbooks of the Philosophy of Science address topics relative to a specific discipline, this general volume deals with focal issues of a general nature. After an editorial introduction about the dominant method of clarifying concepts and principles in philosophy of science, called explication, the first five chapters deal with the following subjects. Laws, theories, and research programs as units of empirical knowledge (Theo Kuipers), various past and contemporary perspectives on explanation (Stathis Psillos), the evaluation of theories in terms of their virtues (Ilkka Niiniluto), and the role of experiments in the natural sciences, notably physics and biology (Allan Franklin), and their role in the social sciences, notably economics (Wenceslao Gonzalez). In the subsequent three chapters there is even more attention to various positions and methods that philosophers of science and scientists may favor: ontological, epistemological, and methodological positions (James Ladyman), reduction, integration, and the unity of science as aims in the sciences and the humanities (William Bechtel and Andrew Hamilton), and logical, historical and computational approaches to the philosophy of science (Atocha Aliseda and Donald Gillies). The volume concludes with the much debated question of demarcating science from nonscience (Martin Mahner) and the rich European-American history of the philosophy of
science in the 20th century (Friedrich Stadler). Comprehensive coverage of the philosophy of science written by leading philosophers in this field. Clear style of writing for an interdisciplinary audience. No specific pre-knowledge required.

The development of science, according to respected scholars Peter J. Bowler and Iwan Rhys Morus, expands our knowledge and control of the world in ways that affect but are also affected by society and culture. In Making Modern Science, a text designed for introductory college courses in the history of science and as a single-volume introduction for the general reader, Bowler and Morus explore both the history of science itself and its influence on modern thought.

Opening with an introduction that explains developments in the history of science over the last three decades and the controversies these initiatives have engendered, the book then proceeds in two parts. The first section considers key episodes in the development of modern science, including the Scientific Revolution and individual accomplishments in geology, physics, and biology. The second section is an analysis of the most important themes stemming from the social relations of science—the discoveries that force society to rethink its religious, moral, or philosophical values. Making Modern Science thus chronicles all major developments in scientific thinking, from the revolutionary ideas of the seventeenth century to the contemporary issues of evolutionism, genetics, nuclear physics, and modern cosmology.

Written by seasoned historians, this book will encourage students to see the history of science not as a series of names and dates but as an interconnected and complex web of relationships between science and modern society. The first survey of its kind, Making Modern Science is a much-needed and accessible introduction to the history of science, engagingly written for undergraduates and curious readers alike.

Philosophy of Science: An Anthology assembles some of the finest papers in the philosophy of science since 1945, showcasing enduring classics alongside important and innovative recent work. Introductions by the editor highlight connections between selections, and contextualize the articles. Nine sections address topics at the heart of philosophy of science, including realism and the character of scientific theories, scientific explanations and laws of nature, singular casusation, and the
metaphysical implications of modern physics Provides an authoritative and accessible overview of the field
This popular reader has been vastly updated with ten stimulating new selections on the natural and the social sciences: feminism; postmodernism, relativism, and science; confirmation, acceptance, and theory; explanatory unification; and science and values. Retaining the best essays from the previous editions, the editors have added important new pieces to maintain this influential text's relevance. How much faith should we place in what scientists tell us? Is it possible for scientific knowledge to be fully "objective?" What, really, can be defined as science? In the second edition of this Very Short Introduction, Samir Okasha explores the main themes and theories of contemporary philosophy of science, and investigates fascinating, challenging questions such as these. Starting at the very beginning, with a concise overview of the history of science, Okasha examines the nature of fundamental practices such as reasoning, causation, and explanation. Looking at scientific revolutions and the issue of scientific change, he asks whether there is a discernible pattern to the way scientific ideas change over time, and discusses realist versus anti-realist attitudes towards science. He finishes by considering science today, and the social and ethical philosophical questions surrounding modern science. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable. The domain of nonlinear dynamical systems and its mathematical underpinnings has been developing exponentially for a century, the last 35 years seeing an outpouring of new ideas and applications and a concomitant confluence with ideas of complex systems and their applications from irreversible thermodynamics. A few examples are in meteorology, ecological dynamics, and social and economic dynamics. These new ideas have profound implications for our understanding and practice in domains involving complexity, predictability and determinism, equilibrium, control, planning, individuality, responsibility and so on. Our
intention is to draw together in this volume, we believe for the first time, a comprehensive picture of the manifold philosophically interesting impacts of recent developments in understanding nonlinear systems and the unique aspects of their complexity. The book will focus specifically on the philosophical concepts, principles, judgments and problems distinctly raised by work in the domain of complex nonlinear dynamical systems, especially in recent years. Comprehensive coverage of all main theories in the philosophy of Complex Systems - Clearly written expositions of fundamental ideas and concepts - Definitive discussions by leading researchers in the field - Summaries of leading-edge research in related fields are also included. This book explores central philosophical concepts, issues, and debates in the philosophy of science, both historical and contemporary. The Philosophy and Science of Roger Bacon offers new insights and research perspectives on one of the most intriguing characters of the Middle Ages, Roger Bacon. At the intersections between science and philosophy, the volume analyses central aspects of Bacon’s reflections on how nature and society can be perfected. The volume dives into the intertwining of Bacon’s philosophical stances on nature, substantial change, and hylomorphism with his scientific discussion of music, alchemy, and medicine. The Philosophy and Science of Roger Bacon also investigates Bacon’s projects of education reform and his epistemological and theological ground maintaining that humans and God are bound by wisdom, and therefore science. Finally, the volume examines how Bacon’s doctrines are related to a wider historical context, particularly in consideration of Peter John Olivi, John Pecham, Peter of Ireland, and Robert Grosseteste. The Philosophy and Science of Roger Bacon is a crucial tool for scholars and students working in the history of philosophy and science and also for a broader audience interested in Roger Bacon and his long-lasting contribution to the history of ideas. The philosophical questions raised by the history and practice of science are among the most complex and stimulating. Science: Key Concepts in Philosophy is the ideal first stop for any student wishing to get to grips with this challenging subject. Written with the specific needs of students new to the discipline in mind, it covers the work of key thinkers and outlines
clearly the central questions, problems and arguments encountered in studying the philosophy of science. This is a practical and informative introduction to a major component of the undergraduate philosophy curriculum. Key Concepts in Philosophy is a series of concise, accessible and engaging introductions to the core ideas and subjects encountered in the study of philosophy. Specially written to meet the needs of students and those with an interest in, but little prior knowledge of, philosophy, these books open up fascinating, yet sometimes difficult ideas. The series builds to give a solid grounding in philosophy and each book is also ideal as a companion to further study. Few can imagine a world without telephones or televisions; many depend on computers and the Internet as part of daily life. Without scientific theory, these developments would not have been possible. In this exceptionally clear and engaging introduction to philosophy of science, James Ladyman explores the philosophical questions that arise when we reflect on the nature of the scientific method and the knowledge it produces. He discusses whether fundamental philosophical questions about knowledge and reality might be answered by science, and considers in detail the debate between realists and antirealists about the extent of scientific knowledge. Along the way, central topics in philosophy of science, such as the demarcation of science from non-science, induction, confirmation and falsification, the relationship between theory and observation and relativism are all addressed. Important and complex current debates over underdetermination, inference to the best explanation and the implications of radical theory change are clarified and clearly explained for those new to the subject. All the great philosophers from Plato and Aristotle to the present day have been philosophers of science. However, this book concentrates on modern philosophy of science, starting in the nineteenth century and offering coverage of all the leading thinkers in the field including Whewell, Mill, Reichenbach, Carnap, Popper, Feyerabend, Putnam, van Fraassen, Bloor, Latour, Hacking, Cartwright and many more. Crucially the book demonstrates how the ideas and arguments of these key thinkers have contributed to our understanding of such central issues as experience and necessity, conventionalism, logical empiricism,
induction and falsification, the sociology of science, and realism. Ideal for undergraduate students, the book lays the necessary foundations for a complete and thorough understanding of this fascinating subject. In this monograph Janet A. Kourany argues for a philosophy of science more socially engaged and socially responsible than the philosophy of science we have now. The central questions feminist scientists, philosophers, and historians have been raising about science during the last three decades form Kourany's point of departure and her response to these questions builds on their insights. This way of approaching science differs from mainstream philosophy of science in two crucial respects: it locates science within its wider societal context rather than treating science as if it existed in a social, political, and economic vacuum; and it points the way to a more comprehensive understanding of scientific rationality, one that integrates the ethical with the epistemic. Kourany develops her particular response, dubbed by her the ideal of socially responsible science, beyond the gender-related questions and contexts that form its origins and she defends it against a variety of challenges, epistemological, historical, sociological, economic, and political. She ends by displaying the important new directions philosophy of science can take and the impressive new roles philosophers of science can fill with the approach to science she offers. What is the origin of our universe? What are dark matter and dark energy? What is our role in the universe as human beings capable of knowledge? What makes us intelligent cognitive agents seemingly endowed with consciousness? Scientific research across both the physical and cognitive sciences raises fascinating philosophical questions. Philosophy and the Sciences For Everyone introduces these questions and more. It begins by asking what good is philosophy for the sciences before examining the following questions: The origin of our universe Dark matter and dark energy Anthropic reasoning in philosophy and cosmology Evolutionary theory and the human mind What is consciousness? Intelligent machines and the human brain Embodied Cognition. Each chapter includes an introduction, summary and study questions and there is a glossary of technical terms. Designed to be used on the corresponding Philosophy and the Sciences online course.
offered by the University of Edinburgh this book is also a superb introduction to central topics in philosophy of science and popular science. Part of the Handbook of the Philosophy of Science Series edited by: Dov M. Gabbay King's College, London, UK; Paul Thagard University of Waterloo, Canada; and John Woods University of British Columbia, Canada. Philosophy of Economics investigates the foundational concepts and methods of economics, the social science that analyzes the production, distribution and consumption of goods and services. This groundbreaking collection, the most thorough treatment of the philosophy of economics ever published, brings together philosophers, scientists and historians to map out the central topics in the field. The articles are divided into two groups. Chapters in the first group deal with various philosophical issues characteristic of economics in general, including realism and Lakatos, explanation and testing, modeling and mathematics, political ideology and feminist epistemology. Chapters in the second group discuss particular methods, theories and branches of economics, including forecasting and measurement, econometrics and experimentation, rational choice and agency issues, game theory and social choice, behavioral economics and public choice, geographical economics and evolutionary economics, and finally the economics of scientific knowledge. This volume serves as a detailed introduction for those new to the field as well as a rich source of new insights and potential research agendas for those already engaged with the philosophy of economics. Provides a bridge between philosophy and current scientific findings Encourages multi-disciplinary dialogue Covers theory and applications Major figures of twentieth-century philosophy were enthralled by the revolution in formal logic, and many of their arguments are based on novel mathematical discoveries. Hilary Putnam claimed that the Lwenheim-Sklem theorem refutes the existence of an objective, observer-independent world; Bas van Fraassen claimed that arguments against empiricism in philosophy of science are ineffective against a semantic approach to scientific theories; W. V. O. Quine claimed that the distinction between analytic and synthetic truths is trivialized by the fact that any theory can be reduced to one in which all truths are analytic. This book dissects these and other arguments.
through in-depth investigation of the mathematical facts undergirding them. It presents a systematic, mathematically rigorous account of the key notions arising from such debates, including theory, equivalence, translation, reduction, and model. The result is a far-reaching reconceptualization of the role of formal methods in answering philosophical questions. Scientific realism is the optimistic view that modern science is on the right track: that the world really is the way our best scientific theories describe it. In his book, Stathis Psillos gives us a detailed and comprehensive study which restores the intuitive plausibility of scientific realism. We see that throughout the twentieth century, scientific realism has been challenged by philosophical positions from all angles: from reductive empiricism, to instrumentalism and to modern sceptical empiricism. Scientific Realism explains that the history of science does not undermine the arguments for scientific realism, but instead makes it reasonable to accept scientific realism as the best philosophical account of science, its empirical success, its progress and its practice. Anyone wishing to gain a deeper understanding of the state of modern science and why scientific realism is plausible, should read this book. Philosophy of science studies the methods, theories, and concepts used by scientists. It mainly developed as a field in its own right during the twentieth century and is now a diversified and lively research area. This book surveys the current state of the discipline by focusing on central themes like confirmation of scientific hypotheses, scientific explanation, causality, the relationship between science and metaphysics, scientific change, the relationship between philosophy of science and science studies, the role of theories and models, unity of science. These themes define general philosophy of science. The book also presents sub-disciplines in the philosophy of science dealing with the main sciences: logic, mathematics, physics, biology, medicine, cognitive science, linguistics, social sciences, and economics. While it is common to address the specific philosophical problems raised by physics and biology in such a book, the place assigned to the philosophy of special sciences is much more unusual. Most authors collaborate on a regular basis in their research or teaching and share a common vision of philosophy of science and its place within
philosophy and academia in general. The chapters have been written in close accordance with the three editors, thus achieving strong unity of style and tone. The book is a translation of the second edition of a much-used and research-based Chinese textbook. As a succinct and issue-based introduction to the Western philosophy of science, the book brings eight focal issues in the field to the fore and augments each topic by incorporating Chinese perspectives. Followed by an overview of the historical framework and logical underpinnings of the philosophy of science, the book thoroughly discusses eight issues in the discipline: (1) the criteria of cognitive meaning, (2) induction and confirmation, (3) scientific explanation, (4) theories of scientific growth, (5) the demarcation between science and pseudoscience, (6) scientific realism and empiricism; (7) the philosophy of scientific experimentation, (8) science and value. Not confined to Western mainstream discourse in this field, the book also introduces voices of Chinese philosophers of note and adopts a stance that productively combines logical empiricism and Kuhnianism, both of which tend to be covered in less detail by many English language textbooks. In the final chapter the author offers a prognosis regarding the future of the discipline based on recent trends. This book will be of value to students who study philosophy of science and hope to gain a better understanding of science and technology.

Copyright code: 490d642ae424cd4331f00e6d8715a692