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### GALILEO'S NEW UNIVERSE

#### THE REVOLUTION IN OUR UNDERSTANDING OF THE COSMOS

*BenBella Books, Inc.* **The historical and social implications of the telescope and that instrument's modern-day significance are brought into startling focus in this fascinating account. When Galileo looked to the sky with his perspicillum, or spyglass, roughly 400 years ago, he could not have fathomed the amount of change his astonishing findings—a seemingly flat moon magically transformed into a dynamic, crater-filled orb and a large, black sky suddenly held millions of galaxies—would have on civilizations. Reflecting on how Galileo's world compares with contemporary society, this insightful analysis deftly moves from the cutting-edge technology available in 17th-century Europe to the unbelievable phenomena discovered during the last 50 years, documenting important astronomical advances and the effects they have had over the years.**

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### THE END OF TIME

#### THE NEXT REVOLUTION IN PHYSICS

*Oxford University Press* **Richard Feynman once quipped that "Time is what happens when nothing else does." But Julian Barbour disagrees: if nothing happened, if nothing changed, then time would stop. For time is nothing but change. It is change that we perceive occurring all around us, not time. Put simply, time does not exist. In this highly provocative volume, Barbour presents the basic evidence for a timeless universe, and shows why we still experience the world as intensely temporal. It is a book that strikes at the heart of modern physics. It casts doubt on Einstein's greatest contribution, the spacetime continuum, but also points to the solution of one of the great paradoxes of modern science, the chasm between classical and quantum physics. Indeed, Barbour argues that the holy grail of physicists--the unification of Einstein's general relativity with quantum mechanics--may well spell the end of time. Barbour writes with remarkable clarity as he ranges from the ancient philosophers Heraclitus and Parmenides, through the giants of science Galileo, Newton, and Einstein, to the work of the contemporary physicists John Wheeler, Roger Penrose, and Steven Hawking. Along the way he treats us to enticing glimpses of some of the mysteries of the universe, and presents intriguing ideas about multiple worlds, time travel, immortality, and, above all, the illusion of motion. The End of Time is a vibrantly written and revolutionary book. It turns our understanding of reality inside-out.**

### THE COSMIC 21-CM REVOLUTION

#### CHARTING THE FIRST BILLION YEARS OF OUR UNIVERSE

*IOP Publishing Limited* **The redshifted 21-cm signal is set to transform astrophysical cosmology, bringing a historically data-starved field into the era of Big Data. Corresponding to the spin-flip transition of neutral hydrogen, the 21-cm line is sensitive to the temperature and ionization state of the cosmic gas, as well as to cosmological parameters. Crucially, with the development of new interferometers it will allow us to map out the first billion years of our Universe, enabling us to learn about the properties of the unseen first generations of galaxies. Rapid progress is being made on both the observational and theoretical fronts, and important decisions on techniques and future direction are being made. The Cosmic 21-cm Revolution gathers contributions from current leaders in this fast-moving field, providing both an overview for graduate students and a reference point for current researchers.**

### THE END OF TIME

#### THE NEXT REVOLUTION IN OUR UNDERSTANDING OF THE UNIVERSE

This text describes a quantum theory of the universe that brings together Einstein's general theory of relativity, which denies the existence of a unique time, and quantum mechanics, which demands one. The author contends that only the most radical of ideas can resolve the profound conflict between these two foundational pillars of modern physics. He proposes that there is, quite literally, no time at all.

### REVELATION REVOLUTION

*Lulu.com*

### THE HUMAN WORLD IN THE PHYSICAL UNIVERSE

#### CONSCIOUSNESS, FREE WILL, AND EVOLUTION

*Rowman & Littlefield* **This book tackles the problem of how we can understand our human world embedded in the physical universe in such a way that justice is done both to the richness, meaning and value of human life on the one hand, and what modern science tells us about the physical universe on the other hand. It includes discussion of consciousness, free will and evolution.**

### A REVOLUTION IN UNDERSTANDING

#### DISCOVERING YOUR NATURAL INTELLIGENCE

*Decoding Potential* **In the second book of The Decoding Potential series, Dr. Bob Flower continues his mission of fostering a spirituality and materialism. A Revolution in Understanding presents a natural system for realizing the development of our potential. The book focuses on innate intelligences we all possess, but do not recognize.**

### THE FOURTH REVOLUTION

#### HOW THE INFOSPHERE IS RESHAPING HUMAN REALITY

*Oxford University Press* **Argues that information and communication technologies have fundamentally changed the way people relate to others, proposing a new view of ethics and ecology that considers the implications of the infosphere.**

### LUCIANO FLORIDI'S PHILOSOPHY OF TECHNOLOGY

#### CRITICAL REFLECTIONS

*Springer Science & Business Media* **Information and communication technologies of the 20th century have had a significant impact on our daily lives. They have brought new opportunities as well as new challenges for human development. The Philosopher: Luciano Floridi claims that these new technologies have led to a revolutionary shift in our understanding of humanity's nature and its role in the universe. Florodi's philosophical analysis of new technologies leads to a novel metaphysical framework in which our understanding of the ultimate nature of reality shifts from a materialist one to an informational one. In this world, all entities, be they natural or artificial, are analyzed as informational entities. This book provides critical reflection to this idea, in four different areas: Information Ethics and The Method of Levels of Abstraction The Information Revolution and Alternative Categorizations of Technological Advancements Applications: Education, Internet and Information Science Epistemic and Ontic Aspects of the Philosophy of Information**

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## THE ASTRONOMY REVOLUTION

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### 400 YEARS OF EXPLORING THE COSMOS

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*Taylor & Francis* Some 400 years after the first known patent application for a telescope by Hans Lipperhey, *The Astronomy Revolution: 400 Years of Exploring the Cosmos* surveys the effects of this instrument and explores the questions that have arisen out of scientific research in astronomy and cosmology. Inspired by the international New Vision 400 conference held

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### THE STARDUST REVOLUTION

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### THE NEW STORY OF OUR ORIGIN IN THE STARS

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*Prometheus Books* Three great scientific revolutions have shaped our understanding of the cosmos and our relationship to it. The sixteenth and seventeenth centuries witnessed the Copernican Revolution, which bodychecked the Earth as the pivot point of creation and joined us with the rest of the cosmos as one planet among many orbiting the Sun. Three centuries later came the second great scientific revolution: the Darwinian Revolution. It removed us from a distinct, divine biological status to place us wholly in the ebb and flow of all terrestrial life. This book describes how we're in the midst of a third great scientific revolution, five centuries in the making: the Stardust Revolution. It is the merging of the once-disparate realms of astronomy and evolutionary biology, and of the Copernican and Darwinian Revolutions, placing life in a cosmic context. The Stardust Revolution takes readers on a grand journey that begins on the summit of California's Mount Wilson, where astronomers first realized that the universe is both expanding and evolving, to a radio telescope used to identify how organic molecules—the building blocks of life—are made by stars. It's an epic story told through a scientific cast that includes some of the twentieth century's greatest minds—including Nobel laureate Charles Townes, who discovered cosmic water—as well as the most ambitious scientific explorers of the twenty-first century, those racing to find another living planet. Today, an entirely new breed of scientists—astrobiologists and astrochemists—are taking the study of life into the space age. Astrobiologists study the origins, evolution, and distribution of life, not just on Earth, but in the universe. Stardust science is filling in the missing links in our evolutionary story, ones that extend our family tree back to the stars.

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### LEARNING THEORY AND ONLINE TECHNOLOGIES

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*Taylor & Francis* *Learning Theory and Online Technologies* offers a powerful overview of the current state of online learning, the foundations of its historical roots and growth, and a framework for distinguishing between the major approaches to online learning. It addresses pedagogy (how to design an effective online environment for learning), evaluation (how to know that students are learning), and history (how past research can guide successful online teaching and learning outcomes). An ideal textbook for undergraduate Education and Communication programs as well as Educational Technology Masters, Ph.D., and Certificate programs, *Learning Theory and Online Technologies* provides a synthesis of the key advances in online education learning theory and the key frameworks of research, and clearly links theory and research to successful learning practice. This revised second edition updates data on digital media adoption globally, adds a new chapter on connectivism as a learning theory, and updates the chapter on online collaborative learning, renaming the theory as collaborativism and considering the challenges that arise with the growth of artificial intelligence.

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### SOUL REVOLUTION - TRINITY OF HUMANITY

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*Lulu.com* Where the Land of MEAT & Honey proved religions falsities, opened long-hidden truths and taught how to make the much needed physical and soul return trip to our Creator; SOUL Revolution combines new and amazing findings from our modern sciences with our many ancient stories, myths, and superstition narratives, and weaves the many parallels between them. Finally reconciling both the ancient and modern back together to provide a panoramic view of WHO our souls truly are; WHERE we are; WHY we are truly here within this physical existence; WHAT this physical existence actually is; WHO it is that has and continues to control us physically and spiritually by their evil stream of consciousness, and HOW they thwart our souls return back to our true Creator!

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### INFLATION: A COSMOLOGY REVOLUTION

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*Lulu.com*

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### THE COMPUTING UNIVERSE

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### A JOURNEY THROUGH A REVOLUTION

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*Cambridge University Press* This exciting and accessible book takes us on a journey from the early days of computers to the cutting-edge research of the present day that will shape computing in the coming decades. It introduces a fascinating cast of dreamers and inventors who brought these great technological developments into every corner of the modern world, and will open up the universe of computing to anyone who has ever wondered where his or her smartphone came from.

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### COSMOLOGY'S CENTURY

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### AN INSIDE HISTORY OF OUR MODERN UNDERSTANDING OF THE UNIVERSE

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*Princeton University Press* From Nobel Prize-winning physicist P. J. E. Peebles, the story of cosmology from Einstein to today Modern cosmology began a century ago with Albert Einstein's general theory of relativity and his notion of a homogenous, philosophically satisfying cosmos. *Cosmology's Century* is the story of how generations of scientists built on these thoughts and many new measurements to arrive at a well-tested physical theory of the structure and evolution of our expanding universe. In this landmark book, one of the world's most esteemed theoretical cosmologists offers an unparalleled personal perspective on how the field developed. P. J. E. Peebles was at the forefront of many of the greatest discoveries of the past century, making fundamental contributions to our understanding of the presence of helium and microwave radiation from the hot big bang, the measures of the distribution and motion of ordinary matter, and the new kind of dark matter that allows us to make sense of these results. Taking readers from the field's beginnings, Peebles describes how scientists working in independent directions found themselves converging on a theory of cosmic evolution interesting enough to warrant the rigorous testing it passes so well. He explores the major advances—some inspired by remarkable insights or perhaps just lucky guesses—as well as the wrong turns taken and the roads not explored. He shares recollections from major players in this story and provides a rare, inside look at how natural science is really done. A monumental work, *Cosmology's Century* also emphasizes where the present theory is incomplete, suggesting exciting directions for continuing research.

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### THE STARDUST REVOLUTION

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### THE NEW STORY OF OUR ORIGIN IN THE STARS

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*Rowman & Littlefield* In 1957, as Americans obsessed over the launch of the Soviet Sputnik satellite, another less noticed space-based scientific revolution was taking off. That year, astrophysicists solved a centuries-old quest for the origins of the elements, from carbon to uranium. The answer they found wasn't on Earth, but in the stars. Their research showed that we are literally stardust. The year also marked the first conference that considered the origin of life on Earth in an astrophysical context. It was the marriage of two of the seemingly strangest bedfellows—astronomy and biology—and a turning point that award-winning science author Jacob Berkowitz calls the Stardust Revolution. In this captivating story of an exciting, deeply personal, new scientific revolution, Berkowitz weaves together the latest research results to reveal a dramatically different view of the twinkling night sky—not as an alien frontier, but as our cosmic birthplace. Reporting from the frontlines of discovery, Berkowitz uniquely captures how stardust scientists are probing the universe's physical structure, but rather its biological nature. Evolutionary theory is entering the space age. From the amazing discovery of cosmic clouds of life's chemical building blocks to the dramatic quest for an alien Earth, Berkowitz expertly chronicles the most profound scientific search of our era: to know not just if we are alone, but how we are connected. Like opening a long-hidden box of old family letters and diaries, *The Stardust Revolution* offers us a new view of where we've come from and brings to light our journey from stardust to thinking beings.

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### THE BIRTH OF STARS AND PLANETS

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*Cambridge University Press* [Publisher description](#)

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### THE COPERNICAN REVOLUTION

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*Harvard University Press* For scientist and layman alike this book provides vivid evidence that the Copernican Revolution has by no means lost its significance today. Few episodes in the development of scientific theory show so clearly how the solution to a highly technical problem can alter our basic thought processes and attitudes.

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### EINSTEIN'S UNFINISHED REVOLUTION

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### THE SEARCH FOR WHAT LIES BEYOND THE QUANTUM

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*Vintage Books Canada* From Canada's leading mind on contemporary physics, a daring new vision of the universe, and the scandals controversies, and questions that will illuminate our future. Quantum physics is the golden child of modern science. It is the basis of our understanding of our world--atoms, radiation, elementary particles, basic forces and the behavior of materials. But for a century it has also been the problem child of science, plagued by intense disagreements between its inventors, strange paradoxes, and implications that seem like the stuff of fantasy. In *Einstein's Unfinished Revolution*, theoretical physicist Lee Smolin takes us on a journey through the basics of quantum physics, introducing the stories of the experiments and figures that have transformed our understanding of the universe, before wrestling with the puzzles and conundrums that the quantum world

presents. Along the way, he illuminates the existing theories that might solve these problems, guiding us towards a vision of the quantum that embraces common sense realism. Vibrant and accessible, Einstein's Unfinished Revolution brings us a step closer to resolving one of the greatest scientific controversies of our age.

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## REVOLUTION IN THE SOCIAL SCIENCES

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### BEYOND CONTROL FREAKS, CONFORMITY, AND TUNNEL VISION

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*Lexington Books* Revolution in the Social Sciences centers on integrating knowledge from sociology, psychology, anthropology, history, political science and economics in order to confront increasing worldwide problems that threaten all of us. That integration of knowledge of human behavior is essential for understanding those problems, given their enormous complexity coupled with the highly specialized nature of the social sciences and their limited communication across specialized fields. It carries further the ideas developed by the Sociological Imagination Group in the seven books it has published since its founding in 2000 ([www.sociological-imagination.org](http://www.sociological-imagination.org)): Beyond Sociology's Tower of Babel, Toward a Sociological Imagination, The Invisible Crisis of Contemporary Society, Understanding Terrorism, Armageddon or Evolution? Bureaucratic Culture and Escalating World Problems, and Saving Society. In addition to visible problems like war and terrorism with weapons of mass destruction that are becoming ever more threatening, there are relatively invisible problems. For example, there is an increasing gap between what people throughout the world want including a decent standard of living and freedom from patterns of hatred like racism, sexism and ageism and what they are in fact able to get. There is, then, an increasing aspirations-fulfillment gap, largely produced by the "revolution of rising expectations" over the past five centuries. Political leaders who attempt to confront problems can only make limited progress on them, largely because of the failure of social scientists to integrate their knowledge and thus yield the understanding of these complex problems that is required.

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## GAIA'S GIFT

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### EARTH, OURSELVES AND GOD AFTER COPERNICUS

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*Routledge* Gaia's Gift, the second of Anne Primavesi's explorations of human relationships with the earth, asks that we complete the ideological revolution set in motion by Copernicus and Darwin concerning human importancene. They challenged the notion of our God-given centrality within the universe and within earth's evolutionary history. Yet as our continuing exploitation of earth's resources and species demonstrates, we remain wedded to the theological assumption that these are there for our sole use and benefit. Now James Lovelock's scientific understanding of the existential reality of Gaia's gift of life again raises the question of our proper place within the universe. It turns us decisively towards an understanding of ourselves as dependent on, rather than in control of, the whole earth community.

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## AMERICA'S SEXUAL TRANSFORMATION: HOW THE SEXUAL REVOLUTION'S LEGACY IS SHAPING OUR SOCIETY, OUR YOUTH, AND OUR FUTURE

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### HOW THE SEXUAL REVOLUTION'S LEGACY IS SHAPING OUR SOCIETY, OUR YOUTH, AND OUR FUTURE

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*ABC-CLIO* This book explains how the short-lived sexual revolution 50 years ago has led to the current evolution of our sexual values and behaviors and social standards among youth culture, examining topics such as communication technologies and sex, teen pregnancy, and divorce rates in the Bible Belt. • Chapter notes highlight some of the major sex research studies of the past 50 years • Case studies and personal histories document unusual sexual preferences and how the practice of sex therapy is changing with current communication technologies • A comprehensive index helps readers find salient points easily

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## THE SCIENTIFIC REVOLUTION

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### A HISTORIOGRAPHICAL INQUIRY

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*University of Chicago Press* In this first book-length historiographical study of the Scientific Revolution, H. Floris Cohen examines the body of work on the intellectual, social, and cultural origins of early modern science. Cohen critically surveys a wide range of scholarship since the nineteenth century, offering new perspectives on how the Scientific Revolution changed forever the way we understand the natural world and our place in it. Cohen's discussions range from scholarly interpretations of Galileo, Kepler, and Newton, to the question of why the Scientific Revolution took place in seventeenth-century Western Europe, rather than in ancient Greece, China, or the Islamic world. Cohen contends that the emergence of early modern science was essential to the rise of the modern world, in the way it fostered advances in technology. A valuable entrée to the literature on the Scientific Revolution, this book assesses both a controversial body of scholarship, and contributes to understanding how modern science came into the world.

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## OUR EVOLVING UNIVERSE

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*CUP Archive* An inspiring and highly illustrated introduction to current astronomy and cosmology for the general reader or student.

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## A GOD THAT COULD BE REAL

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### SPIRITUALITY, SCIENCE, AND THE FUTURE OF OUR PLANET

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*Beacon Press* A paradigm-shifting blend of science, religion, and philosophy for the agnostic, spiritual-but-not-religious, and scientifically minded reader Many people are fed up with the way traditional religion alienates them, perpetuates conflict, vilifies science, and undermines reason. Nancy Abrams—a philosopher of science, lawyer, and lifelong atheist—is among them, but she has also found freedom in imagining a higher power. In *A God That Could Be Real*, Abrams explores a radically new way of thinking about God. She dismantles several common assumptions about God and shows why an omniscient, omnipotent God that created the universe and plans what happens is incompatible with science—but that this doesn't preclude a God that can comfort and empower us. Moving away from traditional arguments for God, Abrams finds something worthy of the name "God" in the new science of emergence: just as a complex ant hill emerges from the collective behavior of individually clueless ants, and just as the global economy emerges from the interactions of billions of individuals' choices, God, she argues, is an "emergent phenomenon" that arises from the staggering complexity of humanity's collective aspirations and is in dialogue with every individual. This God did not create the universe—it created the meaning of the universe. It's not universal—it's planetary. It can't change the world, but it helps us change the world. A God that could be real, Abrams shows us, is what humanity needs to inspire us to collectively cooperate to protect our warming planet and create a long-term civilization.

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## THE QUANTUM REVOLUTION IN PHILOSOPHY

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*Oxford University Press* Quantum theory launched a revolution in physics. But we have yet to understand the revolution's significance for philosophy. Richard Healey opens a path to such understanding. Most studies of the conceptual foundations of quantum theory first try to interpret the theory - to say how the world could possibly be the way the theory says it is. But, though fundamental, quantum theory is enormously successful without describing the world in its own terms. When properly applied, models of quantum theory offer good advice on the significance and credibility of claims about the world expressed in other terms. This first philosophical lesson of the quantum revolution dissolves the quantum measurement problem. Pragmatist treatments of probability and causation show how quantum theory may be used to explain the non-localized correlations that have been thought to involve "spooky" instantaneous action at a distance. Given environmental decoherence, a pragmatist inferentialist approach to content shows when talk of quantum probabilities is licensed, resolves any residual worries about whether a quantum measurement has a determinate outcome, and solves a dilemma about the ontology of a quantum field theory. This approach to meaning and reference also reveals the nature and limits of objective description in the light of quantum theory. While these pragmatist approaches to probability, causation, explanation and content may be independently motivated by philosophical argument, their successful application here illustrates their practical importance in helping philosophers come to terms with the quantum revolution.

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## THE SCIENTIFIC REVOLUTION

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*University of Chicago Press* "There was no such thing as the Scientific Revolution, and this is a book about it." With this provocative and apparently paradoxical claim, Steven Shapin begins his bold, vibrant exploration of the origins of the modern scientific worldview, now updated with a new bibliographic essay featuring the latest scholarship. "An excellent book."—Anthony Gottlieb, *New York Times Book Review* "Timely and highly readable. . . . A book which every scientist curious about our predecessors should read."—Trevor Pinch, *New Scientist* "Shapin's account is informed, nuanced, and articulated with clarity. . . . This is not to attack or devalue science but to reveal its richness as the human endeavor that it most surely is. . . . Shapin's book is an impressive achievement."—David C. Lindberg, *Science* "It's hard to believe that there could be a more accessible, informed or concise account. . . . The Scientific Revolution should be a set text in all the disciplines. And in all the indisciplines, too."—Adam Phillips, *London Review of Books*

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## THE UNIVERSE THROUGH THE EYES OF HUBBLE

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*Springer* Designed with large images and distraction-free layouts to increase the impact of Hubble's imagery, this book gives the reader a guided tour of the cosmos through the eyes of the Hubble Space Telescope. Before Hubble was launched in 1990, no exoplanet had ever been observed, dark energy was unknown, the age of the universe was a mystery, and the most distant objects observed were just halfway back in time to the Big Bang. Hubble has been the centerpiece in a revolution in astronomy, as well as giving the public a visceral connection to the Universe through its stunning images. The images that have been selected here explore key themes in recent astronomy, including planetary science, cosmology and stellar evolution, explaining Hubble's contributions to our understanding of the universe. Hubble's unique images - some never published before - are presented together with a mix of cutting-edge science that highlights the key discoveries of the past few years and how they fit into Hubble's growing list of scientific achievements. It is an unforgettable view of our amazing universe.

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## IN PRAISE OF NATURAL PHILOSOPHY

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### A REVOLUTION FOR THOUGHT AND LIFE

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*McGill-Queen's Press - MQUP* *In Praise of Natural Philosophy* argues for a transformation of both science and philosophy, so that these two distinct domains of thought become one: natural philosophy. This in turn has far-reaching consequences for the whole academic enterprise. It transpires that universities need to be reorganized so that they become devoted to seeking and promoting wisdom by rational means - as opposed to just acquiring knowledge. Modern science began as natural philosophy. What today we call science and philosophy, in Newton's time formed one integrated enterprise: to improve our knowledge and understanding of the universe. Profound discoveries were made. And then natural philosophy died. It split into science and philosophy. But the two fragments are defective shadows of the glorious unified endeavour of natural philosophy. Rigour, sheer intellectual good sense, and decisive argument demand that we put the two together again, and rediscover the immense merits of the integrated enterprise of natural philosophy. This requires an intellectual revolution, with profound consequences for how we understand the universe, do both science and philosophy, and tackle global problems. A comprehensive addition to discussions about the purposes of academia, *In Praise of Natural Philosophy* has dramatic implications for the fate of our world.

### THE SCIENTIFIC REVOLUTION

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#### ASPIRATIONS AND ACHIEVEMENTS, 1500-1700

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*Humanities Press International* An introduction to a large & complicated subject that has come to be called the Scientific Revolution, this book refers to the fundamental changes in our understanding of the natural world that occurred in the sixteenth & seventeenth centuries & that led to a rejection of ancient & medieval thinking about the universe in favor of the new thinking that gave birth to modern science. It does not pretend to tell the whole story of this momentous transformation, perhaps more important than any other in modern history. But it does highlight & survey what are often considered to be the six principal developments associated with this shift from old to new science. The six changes are: first, the abandonment of an ancient Greek picture of a finite, earth-centered universe & its replacement by the modern picture of a solar system surrounded by an infinite universe; second, the gradual rejection of the Aristotelian binary physics in favor of the modern physics of universal forces; third, a medical revolution that culminated in the discovery of the circulation of the blood, & put animal (& human) physiology on a new foundation; fourth, the shift from an Aristotelian theory of knowledge to a modern skepticism; fifth, the development of new methods for establishing scientific certainty; & finally, the founding of the world's first national, government-sponsored scientific societies for promoting research, spreading scientific knowledge, & stimulating inquiry.

#### ASTRONOMY AND ASTROPHYSICS IN THE NEW MILLENNIUM

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*National Academies Press* In this new book, a distinguished panel makes recommendations for the nation's programs in astronomy and astrophysics, including a number of new initiatives for observing the universe. With the goal of optimum value, the recommendations address the role of federal research agencies, allocation of funding, training for scientists, competition and collaboration among space facilities, and much more. The book identifies the most pressing science questions and explains how specific efforts, from the Next Generation Space Telescope to theoretical studies, will help reveal the answers. Discussions of how emerging information technologies can help scientists make sense of the wealth of data available are also included. Astronomy has significant impact on science in general as well as on public imagination. The committee discusses how to integrate astronomical discoveries into our education system and our national life. In preparing the New Millennium report, the AASC made use of a series of panel reports that address various aspects of ground- and space-based astronomy and astrophysics. These reports provide in-depth technical detail. *Astronomy and Astrophysics in the New Millennium: An Overview* summarizes the science goals and recommended initiatives in a short, richly illustrated, non-technical booklet.

### ARCHIVES OF THE UNIVERSE

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#### 100 DISCOVERIES THAT TRANSFORMED OUR UNDERSTANDING OF THE COSMOS

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*Vintage* One hundred primary documents chronicle the history of astronomy, from early naked-eye celestial observation and cosmic mapping to the discovery of black holes, quasars, the Big Bang, and dark matter, in works by Copernicus, Galileo, Kepler, Newton, Halley, Hubble, Einstein, and other great scientists, all accompanied by authoritative commentary and explanations. Reprint.

### ON EVOLUTION BY COMPETITION. THE LAW OF LIFE KNOWLEDGE AND THE UNIVERSE

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This has got to be one of the best books, if not the best book, I have ever read of how to make sense of the world. To know what is the meaning of life. The world went from flat to round with new thinking. *Evolution by Competition* is a book written in the same vein. It changes how we should think of the world and our personal lives in it, making utter sense of it. Harvey makes life simple to understand, showing a continuum of competition that flows like a river, from the beginning of the universe up to the present time. Harvey maintains competition did not evolve from life, but life evolved from competition, as competitive interaction of forces from energy is a fundamental of the Universe. He argues Evolutionary desires for destructive domination using old guard political and religious dogma, need to be re thought with new age reasoning and thinking, considering we have over 14,000 nuclear weapons stock piled around the world. To do this he brings together many ideas, new and old, to demystify life, in simple understandable language for our modern reasoned free thinking interconnected world. Goodbye old dogma bullies, hello free thinking, freedom loving, new age people are his hope. Harvey asserts competition is a double-edged sword in what Charles Darwin termed the 'war of nature'. It can be positive or negative, causing healthy competition or destructive competition, love and fight, war and peace. That even good and bad, harmony and fairness evolved because they helped strengthen 'together stronger', all important weapons for human's survival in the 'war of nature'. That even ideas and knowledge have to be 'comparatively competitive'. He follows on from Charles Darwin's 'natural selection' by using the term 'intelligent selection' for humans' ability to select ideas and knowledge that cause our modern world to flourish. There are lots of quotes and URL clickable videos and references to people such as Socrates, Darwin, Henley, Krauss, Ferreira, Einstein, Dawkins, Cox, Sagan, Attenborough, Baggott, Lewison, Pinker, Carrier, Fondalis, Kipling, Polz, Igoshin and many others including of course, Freddi Mercury. Harvey postulates a Ten Commandments of 'Evolution by Competition'. He attests why the separation of the church from the state in 1648 was such a positive turning point for humanity. The author contends our ancestors were not just Hunters and Gatherers, but Hunters, Gatherers and Fighters and the 'war of nature' was much more. It was a 'guerrilla war of nature' and it's been ongoing since our ancestors were at least microbes! Find out about the fossils, bones and artefacts the author found as an opal miner, investigator and farmer and how these experiences and others, helped free his mind from the confusion of a biased religious upbringing. Find out about why the author considers an Evolutionist a better term to use than Atheist. See if you agree? There is some discussion about pre-modern lives and how violent they were compared to today. With some stories on murderers, cannibals and sacrifice thrown in for comparison! There is much more. 'Evolution by Competition' is a simple, easy to follow concept, using everyday words, that joins the dots of life, knowledge and the Universe into one clear picture, as nothing else I have ever read. See how wrong or right you think he is? It is well researched, strongly argued and makes common sense. I hope you enjoy the journey as much as I did. Every so often something amazing comes along! *Sane Publications*

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### THE METAPHYSICS OF SCIENCE AND AIM-ORIENTED EMPIRICISM

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#### A REVOLUTION FOR SCIENCE AND PHILOSOPHY

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*Springer* This book gives an account of work that I have done over a period of decades that sets out to solve two fundamental problems of philosophy: the mind-body problem and the problem of induction. Remarkably, these revolutionary contributions to philosophy turn out to have dramatic implications for a wide range of issues outside philosophy itself, most notably for the capacity of humanity to resolve current grave global problems and make progress towards a better, wiser world. A key element of the proposed solution to the first problem is that physics is about only a highly specialized aspect of all that there is - the causally efficacious aspect. Once this is understood, it ceases to be a mystery that natural science says nothing about the experiential aspect of reality, the colours we perceive, the inner experiences we are aware of. That natural science is silent about the experiential aspect of reality is no reason whatsoever to hold that the experiential does not objectively exist. A key element of the proposed solution to the second problem is that physics, in persistently accepting unified theories only, thereby makes a substantial metaphysical assumption about the universe: it is such that a unified pattern of physical law runs through all phenomena. We need a new conception, and kind, of physics that acknowledges, and actively seeks to improve, metaphysical presuppositions inherent in the methods of physics. The problematic aims and methods of physics need to be improved as physics proceeds. These are the ideas that have fruitful implications, I set out to show, for a wide range of issues: for philosophy itself, for physics, for natural science more generally, for the social sciences, for education, for the academic enterprise as a whole and, most important of all, for the capacity of humanity to learn how to solve the grave global problems that menace our future, and thus make progress to a better, wiser world. It is not just science that has problematic aims; in life too our aims, whether personal, social or institutional, are all too often profoundly problematic, and in urgent need of improvement. We need a new kind of academic enterprise which helps humanity put aims-and-methods improving meta-methods into practice in personal and social life, so that we may come to do better at achieving what is of value in life, and make progress towards a saner, wiser world. This body of work of mine has met with critical acclaim. Despite that, astonishingly, it has been ignored by mainstream philosophy. In the book I discuss the recent work of over 100 philosophers on the mind-body problem and the metaphysics of science, and show that my earlier, highly relevant work on these issues is universally ignored, the quality of subsequent work suffering as a result. My hope, in publishing this book, is that my fellow philosophers will come to appreciate the intellectual value of my proposed solutions to the mind-body problem and the problem of induction, and will, as a result, join with me in attempting to convince our fellow academics that we need to bring about an intellectual/institutional revolution in academic inquiry so that it takes up its proper task of helping humanity learn how to solve problems of living, including global problems, and make progress towards as good, as wise and enlightened a world as possible.

### THE NEW PSYCHEDELIC REVOLUTION

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## THE GENESIS OF THE VISIONARY AGE

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*Simon and Schuster* A bold exploration of modern psychedelic culture, its history, and future • Examines 3 modern psy-culture architects: chemist Alexander “Sasha” Shulgin, mycologist-philosopher Terence McKenna, and visionary artist Alex Grey • Investigates the use of microdosing in extreme sports, the psy-trance festival experience, and the relationship between the ego, entheogens, and toxicity • Presents a “History of Visionary Art,” from its roots in prehistory, to Ernst Fuchs and the Vienna School of the Fantastic, to contemporary psychedelic art After the dismantling of a major acid laboratory in 2001 dramatically reduced the world supply of LSD, the psychedelic revolution of the 1960s appeared to have finally run its course. But the opposite has actually proven to be true, and a psychedelic renaissance is rapidly emerging with the rise in popularity of transformational festivals like Burning Man and BOOM!, the return to positive media coverage of the potential benefits of entheogens, and the growing number of celebrities willing to admit the benefits of their own personal use. Along with the return of university research, the revival of psychedelic philosophy, and the increasing popularity of visionary art, these new developments signify the beginning of a worldwide psychedelic cultural revolution more integrated into the mainstream than the counterculture uprising of the 1960s. In his latest book, James Oroc defines the borders of 21st-century psychedelic culture through the influence of its three main architects-- chemist Alexander Shulgin, mycologist Terence McKenna, and visionary artist Alex Grey--before illustrating a number of facets of this “Second Psychedelic Revolution,” including the use of microdosing in extreme sports, the tech-savvy psychedelic community that has arisen around transformational festivals, and the relationship between the ego, entheogens, and toxicity. This volume also presents for the first time a “History of Visionary Art” that explains its importance to the emergence of visionary culture. Exploring the practical role of entheogens in our selfish and fast-paced modern world, the author explains how psychedelics are powerful tools to examine the ego and the shadow via the transpersonal experience. Asserting that a cultural adoption of the entheogenic perspective is the best chance that our society has to survive, he then proposes that our ongoing psychedelic revolution--now a century old since the first synthesis of a psychedelic in 1918--offers the potential for the birth of a new Visionary Age.

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## PRECISION COSMOLOGY

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## THE QUALIA REVOLUTION

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## FROM QUANTUM PHYSICS TO COSMIC QUALIA SCIENCE

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The most fundamental scientific fact is not the existence of the physical universe, but our awareness of that universe. Not even the most advanced physics, physiology or psychology, however, can explain even the most elementary qualities of our sensory awareness of that universe - qualities such as redness for example. Qualia used to be defined as sensory qualities such as colour and tone. But what if awareness is not an empty receptacle for sensory impressions, but has its own intrinsic sensual qualities - of the sort we experience as the inwardly sensed shape and substantiality of our bodies, the sensed lightness or darkness colour or tone of our moods, or a sensed feeling of warmth or coolness, closeness or distance to another human being? What if such sensual qualities of awareness are intrinsically meaningful - being the felt essence of meaning or sense? is not energetic quanta but qualia in this sense - sensed and sensual qualities of awareness - that are the basic stuff of which the universe is composed. It argues that qualia are not simply qualities of our own human awareness but fundamental units of awareness. Atoms, molecules and cells are recognised as the physical form taken by field-patterns of atomic, molecular and cellular awareness composed of such units. The soul is understood as an ever-changing gestalt of such units, each of which possess characteristics of both unit and field, particle and wave - allowing the soul-qualities of our own awareness to mix and merge with those of all other beings.