

Race Is about Politics

Lessons from History

JEAN-FRÉDÉRIC SCHAUB

Translated by Lara Vergnaud

How the history of racism without visible differences between people challenges our understanding of the history of racial thinking

“Breathtaking in its range and ambition, this is a wonderful and provocative book about the concept of race. Schaub’s command of the scholarship is impressive, the argument is forcefully made, and the prose is clear. I believe this book should be widely read and discussed.”

—Stuart B. Schwartz, Yale University

“This is a smart, incisive, and provocative book that should find a large audience among scholars interested in questions of race and racism. In its clear and unswerving insistence on race as a political category in need of a political history, it represents a strong, original contribution to this most vexed and fraught of subjects.”

—David A. Bell, Princeton University

Racial divisions have returned to the forefront of politics in the United States and European societies, making it more important than ever to understand race and racism. But do we? In this original and provocative book, acclaimed historian Jean-Frédéric Schaub shows that we don’t—and that we need to rethink the widespread assumption that racism is essentially a modern form of discrimination based on skin color and other visible differences. On the contrary, Schaub argues that to understand racism we must look at historical episodes of collective discrimination where there was no visible difference between people. Built around notions of identity and otherness, race is above all a political tool that must be understood in the context of its historical origins.

Although scholars agree that races don’t exist except as ideological constructions, they disagree about when these ideologies emerged. Drawing on historical research from the early modern period to today, Schaub makes the case that the key turning point in the political history of race in the West occurred not with the Atlantic slave trade and American slavery, as many historians have argued, but much earlier, in fifteenth-century Spain and Portugal, with the racialization of Christians of Jewish and Muslim origin. These Christians were discriminated against under the new idea that they had negative social and moral traits that were passed from generation to generation through blood, semen, or milk—an idea whose legacy has persisted through the age of empires to today.

Challenging widespread definitions of race and offering a new chronology of racial thinking, Schaub shows why race must always be understood in the context of its political history.

Jean-Frédéric Schaub teaches at the School for Advanced Studies in the Humanities and Social Sciences (EHESS) in Paris. He also holds a Global Distinguished Professorship in the History Department of New York University.

AUGUST

978-0-691-17161-6 **Cloth \$27.95S**

216 pages. 5 ½ x 8 ½.

HISTORY | SOCIAL SCIENCE

The Age of Questions

Or, A First Attempt at an Aggregate History of the Eastern, Social, Woman, American, Jewish, Polish, Bullion, Tuberculosis, and Many Other Questions over the Nineteenth Century, and Beyond

HOLLY CASE

In the early nineteenth century, a new age began: the age of questions. In the Eastern and Belgian questions, as much as in the slavery, worker, social, woman, and Jewish questions, contemporaries saw not interrogatives to be answered but problems to be solved. Alexis de Tocqueville, Victor Hugo, Karl Marx, Frederick Douglass, Fyodor Dostoevsky, Rosa Luxemburg, and Adolf Hitler were among the many who put their pens to the task. *The Age of Questions* asks how the question form arose, what trajectory it followed, and why it provoked such feverish excitement for over a century. Was there a family resemblance between questions? Have they disappeared, or are they on the rise again in our time?

In this pioneering book, Holly Case undertakes a stunningly original analysis, presenting, chapter by chapter, seven distinct arguments and frameworks for understanding the age. She considers whether it was marked by a progressive quest for emancipation (of women, slaves, Jews, laborers, and others); a steady, inexorable march toward genocide and the “Final Solution”; or a movement toward federation and the dissolution of boundaries. Or was it simply a farce, a false frenzy dreamed up by publicists eager to sell subscriptions? As the arguments clash, patterns emerge and sharpen until the age reveals its full and peculiar nature.

Turning convention on its head with meticulous and astonishingly broad scholarship, *The Age of Questions* illuminates how patterns of thinking move history.

Holly Case is associate professor of history at Brown University.

JULY

978-0-691-13115-3 **Cloth \$35.00S**
368 pages. 4 b/w illus. 5 ½ x 8 ½.

HISTORY

A groundbreaking history of the Big Questions that dominated the nineteenth century

“This impressive book offers an extraordinarily original interpretation of European history that cuts across the artificial conceptual borders of segregated regions and time periods. The research and erudition are staggering.”
—Michael D. Gordin, Princeton University

Republics of the New World

The Revolutionary Political Experiment in
Nineteenth-Century Latin America

HILDA SABATO

*A sweeping history of
Latin American republicanism
in the nineteenth century*

By the 1820s, after three centuries under imperial rule, the former Spanish territories of Latin America had shaken off their colonial bonds and founded independent republics. In committing themselves to republicanism, they embarked on a political experiment of an unprecedented scale outside the newly formed United States. In this book, Hilda Sabato provides a sweeping history of republicanism in nineteenth-century Latin America, one that spans the entire region and places the Spanish American experience within a broader global perspective.

“An outstanding and deeply erudite interpretation of Spanish American history in the nineteenth century. Sabato provides a new perspective on the originality and success of Latin American polities after independence, challenging a long tradition, particularly in English-speaking academia, of looking at that history as one of chaos and failure.”
—Pablo Piccato, Columbia University, author of *A History of Infamy: Crime, Truth, and Justice in Mexico*

Challenging the conventional view of Latin America as a case of failed modernization, Sabato shows how republican experiments differed across the region yet were all based on the radical notion of popular sovereignty—the idea that legitimate authority lies with the people. As in other parts of the world, the transition from colonies to independent states was complex, uncertain, and rife with conflict. Yet the republican order in Spanish America endured, crossing borders and traversing distinct geographies and cultures. Sabato shifts the focus from rulers and elites to ordinary citizens and traces the emergence of new institutions and practices that shaped a vigorous and inclusive political life.

“Sabato offers a powerful antidote to what endures as the static image of nineteenth-century Latin America as a land of caudillos and authoritarianism, political apathy and backwardness. She proves to those who are interested in the global history of democracy that they ignore the Latin American experience at their peril.”
—Erika Pani, Colegio de México

Panoramic in scope and certain to provoke debate, this book situates these fledgling republics in the context of a transatlantic shift in how government was conceived and practiced, and puts Latin America at the center of a revolutionary age that gave birth to new ideas of citizenship.

Hilda Sabato is head researcher at the National Scientific and Technical Research Council (CONICET) in Argentina and former professor of history at the University of Buenos Aires. Her books include *The Many and the Few: Political Participation in Republican Buenos Aires* and *Agrarian Capitalism and the World Market: Buenos Aires in the Pastoral Age, 1840–1890*.

MARCH

978-0-691-16144-0 **Cloth \$29.95S**
248 pages. 3 maps. 5 ½ x 8 ½.

HISTORY | LATIN AMERICAN STUDIES

A Sacred Space Is Never Empty

A History of Soviet Atheism

VICTORIA SMOLKIN

When the Bolsheviks set out to build a new world in the wake of the Russian Revolution, they expected religion to die off. Soviet power used a variety of tools—from education to propaganda to terror—to turn its vision of a Communist world without religion into reality. Yet even with its monopoly on ideology and power, the Soviet Communist Party never succeeded in overcoming religion and creating an atheist society.

A Sacred Space Is Never Empty presents the first history of Soviet atheism from the 1917 revolution to the dissolution of the Soviet Union in 1991. Drawing on a wealth of archival material and in-depth interviews with those who were on the front lines of Communist ideological campaigns, Victoria Smolkin argues that to understand the Soviet experiment, we must make sense of Soviet atheism. Smolkin shows how atheism was reimagined as an alternative cosmology with its own set of positive beliefs, practices, and spiritual commitments. Through its engagements with religion, the Soviet leadership realized that removing religion from the “sacred spaces” of Soviet life was not enough. Then, in the final years of the Soviet experiment, Mikhail Gorbachev—in a stunning and unexpected reversal—abandoned atheism and reintroduced religion into Soviet public life.

A Sacred Space Is Never Empty explores the meaning of atheism for religious life, for Communist ideology, and for Soviet politics.

Victoria Smolkin is assistant professor of history at Wesleyan University.

MAY

978-0-691-17427-3 **Cloth \$45.00S**
344 pages. 12 b/w illus. 6 x 9.

HISTORY | RUSSIAN HISTORY | RELIGION

A Local History of Global Capital

Jute and Peasant Life in the Bengal Delta

TARIQ OMAR ALI

Before the advent of synthetic fibers and cargo containers, jute sacks were the preferred packaging material of global trade, transporting the world's grain, cotton, sugar, tobacco, coffee, wool, guano, and bacon. Jute was the second-most widely consumed fiber in the world, after cotton. While the sack circulated globally, the plant was cultivated almost exclusively by peasant smallholders in a small corner of the world: the Bengal delta. This book examines how jute fibers entangled the delta's peasantry in the rhythms and vicissitudes of global capital.

Taking readers from the nineteenth-century high noon of the British Raj to the early years of post-partition Pakistan in the mid-twentieth century, Tariq Omar Ali traces how the global connections wrought by jute transformed every facet of peasant life: practices of work, leisure, domesticity, and sociality; ideas and discourses of justice, ethics, piety, and religiosity; and political commitments and actions. Ali examines how peasant life was structured and restructured with oscillations in global commodity markets.

A Local History of Global Capital traces how jute bound the Bengal delta's peasantry to turbulent global capital, and how global commodity markets shaped everyday peasant life and determined the difference between prosperity and poverty, survival and starvation.

Tariq Omar Ali is assistant professor of history at the University of Illinois, Urbana-Champaign.

MAY

978-0-691-17023-7 **Cloth \$39.95S**
288 pages. 1 b/w illus. 11 tables. 3 maps. 6 x 9.

Histories of Economic Life
Jeremy Adelman, Sunil Amrith, and Emma Rothschild,
Series Editors

Not for sale in South Asia

HISTORY | ASIAN STUDIES

Building Anglo-Saxon England

JOHN BLAIR

A radical rethinking of the Anglo-Saxon world that draws on the latest archaeological discoveries

“A magisterial work. Blair provides a compelling, integrated survey of Anglo-Saxon settlement, habitation, architecture, landscape design, and urban design. An impressive book of sweeping coverage, *Building Anglo-Saxon England* will undoubtedly become the standard work in the field.”
—Richard Gameson, author of *The Role of Art in the Late Anglo-Saxon Church*

“A book that will undoubtedly shape approaches to early medieval England for many years to come.”
—Richard Jones, author of *The Medieval Natural World*

This beautifully illustrated book draws on the latest archaeological discoveries to present a radical reappraisal of the Anglo-Saxon built environment and its inhabitants. John Blair, one of the world’s leading experts on this transformative era in England’s early history, explains the origins of towns, manor houses, and castles in a completely new way, and sheds new light on the important functions of buildings and settlements in shaping people’s lives during the age of the Venerable Bede and King Alfred.

Building Anglo-Saxon England demonstrates how hundreds of recent excavations enable us to grasp for the first time how regionally diverse the built environment of the Anglo-Saxons truly was. Blair identifies a zone of eastern England with access to the North Sea whose economy, prosperity, and timber buildings had more in common with the Low Countries and Scandinavia than the rest of England. The origins of villages and their field systems emerge with a new clarity, as does the royal administrative organization of the kingdom of Mercia, which dominated central England for two centuries.

Featuring a wealth of color illustrations throughout, *Building Anglo-Saxon England* explores how the natural landscape was modified to accommodate human activity, and how many settlements—secular and religious—were laid out with geometrical precision by specialist surveyors. The book also shows how the Anglo-Saxon love of elegant and intricate decoration is reflected in the construction of the living environment, which in some ways was more sophisticated than it would become after the Norman Conquest.

John Blair is Professor of Medieval History and Archaeology at the University of Oxford and Fellow in History at The Queen’s College. His books include *The Church in Anglo-Saxon Society* and *The Anglo-Saxon Age: A Very Short Introduction*.

APRIL

978-0-691-16298-0 **Cloth \$49.95S**
488 pages. 109 color + 43 b/w illus. 8 ½ x 11.

HISTORY | ARCHAEOLOGY

Trustworthy Men

How Inequality and Faith Made the Medieval Church

IAN FORREST

The medieval church was founded on and governed by concepts of faith and trust—but not in the way that is popularly assumed. Offering a radical new interpretation of the institutional church and its social consequences in England, Ian Forrest argues that between 1200 and 1500 the ability of bishops to govern depended on the cooperation of local people known as trustworthy men and shows how the combination of inequality and faith helped make the medieval church.

Trustworthy men (in Latin, *virī fidedigni*) were jurors, informants, and witnesses who represented their parishes when bishops needed local knowledge or reliable collaborators. Their importance in church courts, at inquests, and during visitations grew enormously between the thirteenth and fifteenth centuries. The church had to trust these men, and this trust rested on the complex and deep-rooted cultures of faith that underpinned promises and obligations, personal reputation and identity, and belief in God. But trust also had a dark side. For the church to discriminate between the trustworthy and untrustworthy was not to identify the most honest Christians but to find people whose status ensured their word would not be contradicted. This meant men rather than women, and—usually—the wealthier tenants and property holders in each parish.

Trustworthy Men illustrates the ways in which the English church relied on and deepened inequalities within late medieval society, and how trust and faith were manipulated for political ends.

Ian Forrest is fellow and tutor in history at Oriol College, University of Oxford. He is the author of *The Detection of Heresy in Late Medieval England*.

JULY

978-0-691-18060-1 **Cloth \$45.00S**
480 pages. 10 b/w illus. 6 x 9.

MEDIEVAL HISTORY | RELIGION

The Papers of Thomas Jefferson: Retirement Series

Volume 14: 1 February to 31 August 1819

THOMAS JEFFERSON

Edited by J. Jefferson Looney

The 637 documents in this volume span 1 February to 31 August 1819. As a founding member of the University of Virginia Board of Visitors, Jefferson helps to obtain builders for the infant institution, responds to those seeking professorships, and orchestrates the establishment of a classical preparatory school in Charlottesville. In a letter to Vine Uley, Jefferson details his daily regimen of a largely vegetarian diet, bathing his feet in cold water each morning, and horseback riding. Continuing to indulge his wide-ranging intellectual interests, Jefferson receives publications on the proper pronunciation of Greek and discusses the subject himself in a letter to John Adams. Jefferson also experiences worrying and painful events, including hailstorm damage at his Poplar Forest estate, a fire in the North Pavilion at Monticello, the illness of his slave Burwell Colbert, and a fracas in which Jefferson's grandson-in-law Charles Bankhead stabs Jefferson's grandson Thomas Jefferson Randolph on court day in Charlottesville. Worst of all, Jefferson's financial problems greatly increase when the bankruptcy of his friend Wilson Cary Nicholas leaves Jefferson responsible for \$20,000 in notes he had endorsed for Nicholas.

J. Jefferson Looney is the Daniel P. Jordan Editor of the Papers of Thomas Jefferson at Monticello. The Retirement Series is sponsored by the Thomas Jefferson Foundation, Charlottesville, Virginia.

AUGUST

978-0-691-17783-0 **Cloth \$150.00J**
776 pages. 9 color + 9 b/w illus. 4 maps. 6 x 9.

The Papers of Thomas Jefferson: Retirement Series
J. Jefferson Looney, Editor

10% subscription discount available to libraries and individuals (United States and Canada only)

AMERICAN HISTORY

Medieval History | American History 115

The Open Sea

The Economic Life of the Ancient Mediterranean World
from the Iron Age to the Rise of Rome

J. G. MANNING

A major new economic history of the ancient Mediterranean world

“For too long, specialists have drawn lines through the ancient Mediterranean, with Egypt and the Near East on one side and Greece and Rome on the other. True to its title, *The Open Sea* washes these lines away, reuniting what should never have been separated. Manning provides a unified view of the economies of the first millennium BC, and everyone interested in the period will want to read this book.”
—Ian Morris, author of *Why the West Rules—for Now*

“Ranging over the entire Mediterranean from the Iron Age to the dawn of the Roman Empire, Manning draws on new evidence to rethink ancient history as a whole. Along the way, he makes clear what drove economic and institutional development in the ancient world: not huge empires but cross-cultural exchange and a very different sort of politics.”
—Philip T. Hoffman, author of *Why Did Europe Conquer the World?*

In *The Open Sea*, J. G. Manning offers a major new history of economic life in the Mediterranean world in the Iron Age, from Phoenician trading down to the Hellenistic era and the beginning of Rome’s imperial supremacy. Drawing on a wide range of ancient sources and the latest social theory, Manning suggests that a search for an illusory single “ancient economy” has obscured the diversity of lived experience in the Mediterranean world, including both changes in political economies over time and differences in cultural conceptions of property and money. At the same time, he shows how the region’s economies became increasingly interconnected during this period.

The Open Sea argues that the keys to understanding the region’s rapid social and economic change during the Iron Age are the variety of economic and political solutions its different cultures devised, the patterns of cross-cultural exchange, and the sharp environmental contrasts between Egypt, the Near East, and Greece and Rome. The book examines long-run drivers of change, such as climate, together with the most important economic institutions of the premodern Mediterranean—coinage, money, agriculture, and private property. It also explores the role of economic growth, states, and legal institutions in the region’s various economies.

A groundbreaking economic history of the ancient Mediterranean world, *The Open Sea* shows that the origins of the modern economy extend far beyond Greece and Rome.

J. G. Manning is the William K. and Marilyn M. Simpson Professor of History and professor of classics at Yale University. He is the author of *The Last Pharaohs: Egypt under the Ptolemies* (Princeton) and *Land and Power in Ptolemaic Egypt*, and coeditor of *The Ancient Economy: Evidence and Models*.

APRIL

978-0-691-15174-8 **Cloth \$35.00S**

400 pages. 50 b/w illus. 6 tables. 3 maps. 6 x 9.

ANCIENT HISTORY | ECONOMICS

The Science of Roman History

Biology, Climate, and the Future of the Past

EDITED BY WALTER SCHEIDEL

This groundbreaking book provides the first comprehensive look at how the latest advances in the sciences are transforming our understanding of ancient Roman history. Walter Scheidel brings together leading historians, anthropologists, and geneticists at the cutting edge of their fields, who explore novel types of evidence that enable us to reconstruct the realities of life in the Roman world.

Contributors discuss climate change and its impact on Roman history, and then cover botanical and animal remains, which cast new light on agricultural and dietary practices. They exploit the rich record of human skeletal material—both bones and teeth—which forms a bio-archive that has preserved vital information about health, nutritional status, diet, disease, working conditions, and migration. Complementing this discussion is an in-depth analysis of trends in human body height, a marker of general well-being. This book also assesses the contribution of genetics to our understanding of the past, demonstrating how ancient DNA is used to track infectious diseases, migration, and the spread of livestock and crops, while the DNA of modern populations helps us reconstruct ancient migrations, especially colonization.

Opening a path toward a genuine biohistory of Rome and the wider ancient world, *The Science of Roman History* offers an accessible introduction to the scientific methods being used in this exciting new area of research, as well as an up-to-date survey of recent findings and a tantalizing glimpse of what the future holds.

Walter Scheidel is the Dickason Professor in the Humanities, Professor of Classics and History, and a Kennedy-Grossman Fellow in Human Biology at Stanford University. He is the author or editor of seventeen previous books, including *The Great Leveler: Violence and the History of Inequality from the Stone Age to the Twenty-First Century* (Princeton).

APRIL

978-0-691-16256-0 Cloth \$35.00S

280 pages. 23 b/w illus. 7 tables. 3 maps. 6 x 9.

ANCIENT HISTORY | ARCHAEOLOGY

How the latest cutting-edge science offers a fuller picture of life in Rome and antiquity

“This interdisciplinary book brings together the latest scientific methodologies to better understand the history of Rome and the ancient world. There really isn’t another book like this.”

—Kristina Killgrove, University of West Florida

“*The Science of Roman History* is a very timely book. With state-of-the-art contributions by scholars who are leaders in their respective fields, it describes how the integration of natural and human archives is changing the entire historical enterprise. I highly recommend that all historians read this important contribution.”

—J. G. Manning, author of *The Last Pharaohs*

Islam in Pakistan

A History

MUHAMMAD QASIM ZAMAN

*The first book to explore
the modern history of Islam
in South Asia*

“The strength of this book lies in its broad and deep engagement with a wide variety of interpreters of Islamic thought in Pakistan, tracking the contours of the debates and arguments among them. A tour de force.”

—David Gilmartin, North Carolina State University

“*Islam in Pakistan* is an excellent book that explores the distinctive features of the religious ideas and practices, legislation, and policy reforms in the modern state carved out of colonial India.”

—Ebrahim Moosa, University of Notre Dame

The first modern state to be founded in the name of Islam, Pakistan was the largest Muslim country in the world at the time of its establishment in 1947. Today it is the second-most populous, after Indonesia. *Islam in Pakistan* is the first comprehensive book to explore Islam’s evolution in this region over the past century and a half, from the British colonial era to the present day. Muhammad Qasim Zaman presents a rich historical account of this major Muslim nation, insights into the rise and gradual decline of Islamic modernist thought in the South Asian region, and an understanding of how Islam has fared in the contemporary world.

Much attention has been given to Pakistan’s role in sustaining the Afghan struggle against the Soviet occupation in the 1980s, in the growth of the Taliban in the 1990s, and in the War on Terror after 9/11. But as Zaman shows, the nation’s significance in matters relating to Islam has much deeper roots. Since the late nineteenth century, South Asia has witnessed important initiatives toward rethinking core Islamic texts and traditions in the interest of their compatibility with the imperatives of modern life. Traditionalist scholars and their institutions, too, have had a prominent presence in the region, as have Islamism and Sufism. Pakistan did not merely inherit these and other aspects of Islam. Rather, it has been and remains a site of intense contestation over Islam’s public place, meaning, and interpretation.

Examining how facets of Islam have been pivotal in Pakistani history, *Islam in Pakistan* offers sweeping perspectives on what constitutes an Islamic state.

Muhammad Qasim Zaman is the Robert H. Niehaus ’77 Professor of Near Eastern Studies and Religion at Princeton University. His books include *The Ulama in Contemporary Islam* (Princeton) and *Modern Islamic Thought in a Radical Age*.

MAY

978-0-691-14922-6 **Cloth \$39.50S**

424 pages. 6 tables. 3 maps. 6 x 9.

Princeton Studies in Muslim Politics

Dale F. Eickelman and Augustus Richard Norton, Series Editors

RELIGION | HISTORY | ISLAMIC STUDIES

Bible Culture and Authority in the Early United States

SETH PERRY

Early Americans claimed that they looked to “the Bible alone” for authority, but the Bible was never, ever alone. *Bible Culture and Authority in the Early United States* is a wide-ranging exploration of the place of the Christian Bible in America in the decades after the Revolution. Attending to both theoretical concerns about the nature of scriptures and to the precise historical circumstances of a formative period in American history, Seth Perry argues that the Bible was not a “source” of authority in early America, as is often said, but rather a site of authority: a cultural space for editors, commentators, publishers, preachers, and readers to cultivate authoritative relationships.

While paying careful attention to early national bibles as material objects, Perry shows that “the Bible” is both a text and a set of relationships sustained by a universe of cultural practices and assumptions. Moreover, he demonstrates that Bible culture underwent rapid and fundamental changes in the early nineteenth century as a result of developments in technology, politics, and religious life. At the heart of the book are typical Bible readers and better-known figures such as Zilpha Elaw, Joseph Smith, Denmark Vesey, and Ellen White, a group that includes men and women, enslaved and free, Baptists, Catholics, Episcopalians, Methodists, Mormons, Presbyterians, and Quakers. What they shared were practices of biblical citation in writing, speech, and the performance of their daily lives. While such citation contributed to the Bible’s authority, it also meant that the meaning of the Bible constantly evolved as Americans applied it to new circumstances and identities.

Seth Perry is assistant professor of religion at Princeton University.

JUNE

978-0-691-17913-1 **Cloth \$35.00S**
208 pages. 6 b/w illus. 6 x 9.

RELIGIOUS STUDIES | AMERICAN HISTORY

The Collected Papers of Albert Einstein

Volume 15: The Berlin Years: Writings & Correspondence, June 1925–May 1927
Documentary Edition

EDITED BY DIANA KORMOS BUCHWALD, JÓZSEF ILLY, A. J. KOX, DENNIS LEHMKUHL, ZE’EV ROSENKRANZ & JENNIFER NOLLAR JAMES

Covering one of the most thrilling two-year periods in twentieth-century physics, this volume’s massive personal and professional correspondence of more than 1,000 letters and almost 100 writings show Einstein’s immense productivity and hectic pace of life. During this time, matrix mechanics and wave mechanics supplant the earlier quantum theory. Einstein recognizes the great importance of the new developments and the conceptual difficulties involved. He continues to work on unified field theory and turns to a new, mixed geometry, mathematical approach. This volume also contains revelations about Einstein’s personal life, including old romantic entanglements and new conflicts.

At the California Institute of Technology, **Diana Kormos Buchwald** is professor of history; **A. J. Kox** is senior editor and visiting associate in history; **József Illy** and **Ze’ev Rosenkranz** are editors and senior researchers in history; **Dennis Lehmkühl** is assistant research professor and scientific editor; and **Jennifer Nollar James** is assistant editor.

APRIL

978-0-691-17881-3 **Cloth \$140.00J**
1216 pages. 24 b/w illus. 7 ½ x 10.

HISTORY OF SCIENCE | PHYSICS | EUROPEAN HISTORY

English Translation Supplement

Translated by Jennifer Nollar James, Ann M. Hentschel & Mary Jane Teague
Andreas Aebi & Klaus Hentschel, consultants

APRIL

978-0-691-17882-0 **Paper \$45.00J**
560 Pages. 7 ½ x 10.

HISTORY OF SCIENCE | PHYSICS | EUROPEAN HISTORY

Religion | History of Science 119

Sophocles

A Study of His Theater in Its
Political and Social Context

JACQUES JOUANNA

Translated by Steven Rendall

Here, for the first time in English, is celebrated French classicist Jacques Jouanna's magisterial account of the life and work of Sophocles. Exhaustive and authoritative, this acclaimed book combines biography and detailed studies of Sophocles' plays, all set in the rich context of classical Greek tragedy and the political, social, religious, and cultural world of Athens's greatest age, the fifth century.

Sophocles was the commanding figure of his day. The author of *Oedipus Rex* and *Antigone*, he was not only the leading dramatist but also a distinguished politician, military commander, and religious figure. And yet the evidence about his life has, until now, been fragmentary.

Reconstructing a lost literary world, Jouanna has finally assembled all the available information, culled from inscriptions, archaeological evidence, and later sources. He also offers a huge range of new interpretations, from his emphasis on the significance of Sophocles' political and military offices (previously often seen as honorary) to his analysis of Sophocles' plays in the mythic and literary context of fifth-century drama.

Written for scholars, students, and general readers, *Sophocles* will interest anyone who wants to know more about Greek drama in general and Sophocles in particular.

Jacques Jouanna is a member of the Institut de France and professor emeritus of Greek at the Université de Paris-Sorbonne.

AUGUST

978-0-691-17207-1 **Cloth \$55.00S**
896 pages. 6 x 9.

CLASSICS

Virgil's Double Cross

Design and Meaning in the *Aeneid*

DAVID QUINT

The message of Virgil's *Aeneid* once seemed straightforward enough: the epic poem returned to Aeneas and the mythical beginnings of Rome in order to celebrate the city's present world power and to praise its new master, Augustus Caesar. Things changed when late twentieth-century readers saw the ancient poem expressing their own misgivings about empire and one-man rule. In this timely book, David Quint depicts a Virgil who consciously builds contradiction into the *Aeneid*. The literary trope of chiasmus, reversing and collapsing distinctions, returns as an organizing signature in Virgil's writing: a double cross for the reader inside the *Aeneid*'s story of nation, empire, and Caesarism.

Uncovering verbal designs and allusions, layers of artfulness and connections to Roman history, Quint's accessible readings of the poem's famous episodes—the fall of Troy, the story of Dido, the trip to the Underworld, and the troubling killing of Turnus—disclose unsustainable distinctions between foreign war/civil war, Greek/Roman, enemy/lover, nature/culture, and victor/victim. The poem's form, Quint shows, imparts meanings it will not say directly. The *Aeneid*'s life-and-death issues—about how power represents itself in grand narratives, about the experience of the defeated and displaced, and about the ironies and revenges of history—resonate deeply in the twenty-first century.

David Quint is Sterling Professor of Comparative Literature at Yale University. His many books include *Epic and Empire* and *Inside "Paradise Lost"* (both Princeton).

AUGUST

978-0-691-17938-4 **Paper \$35.00S**
978-0-691-17937-7 **Cloth \$75.00S**
224 pages. 6 x 9.

CLASSICS | LITERATURE

The Beginnings of Philosophy in Greece

MARIA MICHELA SASSI

Translated by Michele Asuni

How can we talk about the beginnings of philosophy today? How can we avoid the conventional opposition of mythology and the dawn of reason and instead explore the multiple styles of thought that emerged between them? In this acclaimed book, available in English for the first time, Maria Michela Sassi reconstructs the intellectual world of the early Greek “Presocratics” to provide a richer understanding of the roots of what used to be called “the Greek miracle.”

The beginnings of the long process leading to philosophy were characterized by intellectual diversity and geographic polycentrism. In the sixth and fifth centuries, between the Asian shores of Ionia and the Greek city-states of southern Italy, thinkers started to reflect on the cosmic order, elaborate doctrines on the soul, write in solemn Homeric meter, or, later, abandon poetry for an assertive prose. And yet the Presocratics—whether the Milesian natural thinkers, the rhapsode Xenophanes, the mathematician and “shaman” Pythagoras, the naturalist and seer Empedocles, the oracular Heraclitus, or the inspired Parmenides—all shared an approach to critical thinking that, by questioning traditional viewpoints, revolutionized knowledge.

A unique study that explores the full range of early Greek thinkers in the context of their worlds, the book also features a new preface to the English edition in which the author discusses the latest scholarship on the subject.

Maria Michela Sassi teaches the history of ancient philosophy at the University of Pisa. Her books include *The Science of Man in Ancient Greece*.

JULY

978-0-691-18050-2 **Cloth \$29.95S**

240 pages. 1 table. 1 map. 6 x 9.

PHILOSOPHY

A celebrated study of the origins of ancient Greek philosophy, now in English for the first time

“This book is among the most illuminating contributions to the much-debated topic of how, why, and in what form the Greeks of the sixth and fifth centuries BC created philosophy. Its constructive blend of cultural history, anthropology, and philosophical analysis makes it particularly good to think with, and it is now finally available to a broader audience of Anglophone readers.”

—David Sedley, University of Cambridge

“This impressively learned book contributes to longstanding debates about the beginnings of Greek philosophy, its connections to earlier Greek writings that address similar topics, the way Aristotle shapes our access to Presocratic philosophy, and more.”

—Katja Maria Vogt, Columbia University

Kant's Philosophical Revolution

A Short Guide to the *Critique of Pure Reason*

YIRMIYAHU YOVEL

A short, clear, and authoritative guide to one of the most important and difficult works of modern philosophy

“Very few short introductions to Kant’s *Critique of Pure Reason* are this clear and well informed, and very few Kant scholars can compete with Yovel’s broad knowledge of the philosopher. This book is distinguished from other introductions and greatly enriched by the way it highlights important connections between the *Critique* and Kant’s other writings. Offering helpful explanations of some of Kant’s most baffling doctrines, Yovel’s book will serve as a useful guide for those reading Kant’s text for the first (or second or third) time.”

—Sally S. Sedgwick, University of Illinois at Chicago

Perhaps the most influential work of modern philosophy, Immanuel Kant’s *Critique of Pure Reason* is also one of the hardest to read, since it brims with complex arguments, difficult ideas, and tortuous sentences. A philosophical revolutionary, Kant had to invent a language to express his new ideas, and he wrote quickly. It’s little wonder that the *Critique* was misunderstood from the start, or that Kant was compelled to revise it in a second edition, or that it still presents great challenges to the reader. In this short, accessible book, eminent philosopher and Kant expert Yirmiyahu Yovel helps readers find their way through the web of Kant’s classic by providing a clear and authoritative summary of the entire work. The distillation of decades of studying and teaching Kant, Yovel’s “systematic explication” untangles the ideas and arguments of the *Critique* in the order in which Kant presents them. This guide provides helpful explanations of difficult issues such as the difference between general and transcendental logic, the variants of transcendental Deduction, and the constitutive role of the “I think.” Yovel underscores the central importance of Kant’s insistence on the finitude of reason and succinctly describes how the *Critique*’s key ideas are related to Kant’s other writings. The result is an invaluable guide for philosophers and students.

Yirmiyahu Yovel is professor emeritus of philosophy at the Hebrew University of Jerusalem and was previously the Hans Jonas Professor of Philosophy at the New School for Social Research. His books include *Kant and the Philosophy of History* and *Spinoza and Other Heretics* (both Princeton).

APRIL

978-0-691-18052-6 **Cloth \$24.95S**

136 pages. 5 ½ x 8 ½.

PHILOSOPHY

Causation in Science

YEMIMA BEN-MENAHM

This book explores the role of causal constraints in science, shifting our attention from causal relations between individual events—the focus of most philosophical treatments of causation—to a broad family of concepts and principles generating constraints on possible change. Yemima Ben-Menahem looks at determinism, locality, stability, symmetry principles, conservation laws, and the principle of least action—causal constraints that serve to distinguish events and processes that our best scientific theories mandate or allow from those they rule out.

Ben-Menahem's approach reveals that causation is just as relevant to explaining why certain events fail to occur as it is to explaining events that do occur. She investigates the conceptual differences between, and interrelations of, members of the causal family, thereby clarifying problems at the heart of the philosophy of science. Ben-Menahem argues that the distinction between determinism and stability is pertinent to the philosophy of history and the foundations of statistical mechanics, and that the interplay of determinism and locality is crucial for understanding quantum mechanics. Providing historical perspective, she traces the causal constraints of contemporary science to traditional intuitions about causation.

Causation in Science represents a bold challenge to both causal eliminativism and causal reductionism—the notions that causation has no place in science and that higher-level causal claims are reducible to the causal claims of fundamental physics.

Yemima Ben-Menahem is professor of philosophy at the Hebrew University of Jerusalem.

JUNE

978-0-691-17493-8 **Cloth \$39.95S**
200 pages. 6 x 9.

PHILOSOPHY | SCIENCE

The Constitution of Ancient China

SU LI

Edited by Daniel A. Bell & Zhang Yongle

How was the vast ancient Chinese empire brought together and effectively ruled? What are the historical origins of the resilience of contemporary China's political system? In *The Constitution of Ancient China*, Su Li, China's most influential legal theorist, examines the ways in which a series of fundamental institutions, rather than a supreme legal code upholding the laws of the land, evolved and coalesced into an effective constitution.

Arguing that a constitution is an institutional response to a set of issues particular to a specific society, Su Li demonstrates how China unified a vast territory, diverse cultures, and elites from different backgrounds into a whole. He delves into such areas as uniform weights and measurements, the standardization of Chinese characters, and the building of the Great Wall. The book includes commentaries by four leading Chinese scholars in law, philosophy, and intellectual history—Wang Hui, Liu Han, Wu Fei, and Zhao Xiaoli—who share Su Li's ambition to explain the resilience of ancient China's political system but who contend that he overstates functionalist dimensions while downplaying the symbolic.

The Constitution of Ancient China will be essential reading for anyone interested in understanding the institutional legacy of the Chinese empire.

Su Li is a professor at Peking University Law School and a pioneering scholar in the sociology of law, law and economics, and law and literature in China.

AUGUST

978-0-691-17159-3 **Cloth \$39.50S**
328 pages. 1 map. 6 x 9.

The Princeton-China Series
Daniel A. Bell, Series Editor

ASIAN STUDIES | LAW

The Iranian Metaphysicals

Explorations in Science, Islam, and the Uncanny

ALIREZA DOOSTDAR

What do the occult sciences, séances with the souls of the dead, and appeals to saintly powers have to do with rationality? Since the late nineteenth century, modernizing intellectuals, religious leaders, and statesmen in Iran have attempted to curtail many such practices as “superstitious,” instead encouraging the development of rational religious sensibilities and dispositions. However, far from diminishing the diverse methods through which Iranians engage with the immaterial realm, these rationalizing processes have multiplied the possibilities for metaphysical experimentation.

The Iranian Metaphysicals examines these experiments and their transformations over the past century. Drawing on years of ethnographic and archival research, Alireza Doostdar shows that metaphysical experimentation lies at the center of some of the most influential intellectual and religious movements in modern Iran. These forms of exploration have not only produced a plurality of rational orientations toward metaphysical phenomena but have also fundamentally shaped what is understood as orthodox Shi'i Islam, including the forms of Islamic rationality at the heart of projects for building and sustaining an Islamic Republic.

Delving into frequently neglected aspects of Iranian spirituality, politics, and intellectual inquiry, *The Iranian Metaphysicals* challenges widely held assumptions about Islam, rationality, and the relationship between science and religion.

Alireza Doostdar is assistant professor of Islamic Studies and the anthropology of religion at the University of Chicago.

MARCH

978-0-691-16378-9 **Paper \$29.95S**

978-0-691-16377-2 **Cloth \$85.00S**

312 pages. 1 b/w illus. 6 x 9.

MIDDLE EAST STUDIES | ANTHROPOLOGY

124 Middle East Studies | Jewish Studies

Writing on the Wall

Graffiti and the Forgotten Jews of Late Antiquity

KAREN B. STERN

Few direct clues exist to the everyday lives and beliefs of ordinary Jews in antiquity. Prevailing perspectives on ancient Jewish life have been shaped largely by the voices of intellectual and social elites, preserved in the writings of Philo and Josephus and the rabbinic texts of the Mishnah and Talmud. Commissioned art, architecture, and formal inscriptions displayed on tombs and synagogues equally reflect the sensibilities of their influential patrons. The perspectives and sentiments of nonelite Jews, by contrast, have mostly disappeared from the historical record. Focusing on these forgotten Jews of antiquity, *Writing on the Wall* takes an unprecedented look at the vernacular inscriptions and drawings they left behind and sheds new light on the richness of their quotidian lives.

Just like their neighbors throughout the eastern and southern Mediterranean, Mesopotamia, Arabia, and Egypt, ancient Jews scribbled and drew graffiti everywhere—in and around markets, hippodromes, theaters, pagan temples, open cliffs, sanctuaries, and even inside burial caves and synagogues. Karen Stern reveals what these markings tell us about the men and women who made them. Making compelling analogies with modern graffiti practices, she documents the overlooked connections between Jews and their neighbors.

Illustrated throughout with examples of ancient graffiti, *Writing on the Wall* provides a tantalizingly intimate glimpse into the cultural worlds of forgotten populations living at the crossroads of Judaism, Christianity, paganism, and earliest Islam.

Karen B. Stern is assistant professor of history at Brooklyn College of the City University of New York.

JUNE

978-0-691-16133-4 **Cloth \$35.00S**

256 pages. 55 b/w illus. 4 maps. 6 x 9.

JEWISH STUDIES | RELIGION | ANCIENT HISTORY

Princeton Readings in Political Thought

Essential Texts since Plato
Revised and Expanded Edition

EDITED BY MITCHELL COHEN

This is a thoroughly updated and substantially expanded new edition of one of the most popular, wide-ranging, and engaging anthologies of Western political thinking, one that spans from antiquity to the twenty-first century. In addition to the majority of the pieces that appeared in the original edition, this new edition features exciting new selections from more recent thinkers who address vital contemporary issues, including identity, cosmopolitanism, global justice, and populism. Organized chronologically, the anthology brings together a fascinating array of writings—including essays, book excerpts, speeches, and other documents—that have indelibly shaped how politics and society are understood. Each chronological section and thinker is presented with a brief, lucid introduction, making this a valuable reference as well as reader.

- ◆ A thoroughly updated and substantially expanded edition of an acclaimed anthology of political thought
- ◆ Features a wide range of thinkers, including Thucydides, Plato, Aristotle, Cicero, Augustine, Aquinas, Christine de Pizan, Machiavelli, Luther, Calvin, Hobbes, Spinoza, Locke, Swift, Hume, Rousseau, Adam Smith, Jefferson, Burke, Olympes de Gouges, Wollstonecraft, Kant, Hegel, Bentham, Mill, de Tocqueville, Frederick Douglass, Lincoln, Marx, Nietzsche, Lenin, John Dewey, Gaetano Mosca, Roberto Michels, Weber, Emma Goldman, Freud, Einstein, Mussolini, Arendt, Hayek, Franklin D. Roosevelt, T. H. Marshall, Orwell, Leo Strauss, de Beauvoir, Fanon, Martin Luther King Jr., Malcolm X, Havel, Fukuyama, Mitchell Cohen, Habermas, Foucault, Rawls, Nozick, Walzer, Iris Marion Young, Martha Nussbaum, Peter Singer, Amartya Sen, and Jan-Werner Müller
- ◆ Includes brief introductions for each thinker

Mitchell Cohen is professor of political science at Baruch College and the Graduate Center of the City University of New York and editor emeritus of *Dissent* magazine. His books include *The Politics of Opera: A History from Monteverdi to Mozart* (Princeton).

JUNE

978-0-691-15997-3 **Paper \$39.95S**
896 pages. 6 x 9.

*A thoroughly updated and
substantially expanded edition
of an acclaimed anthology*

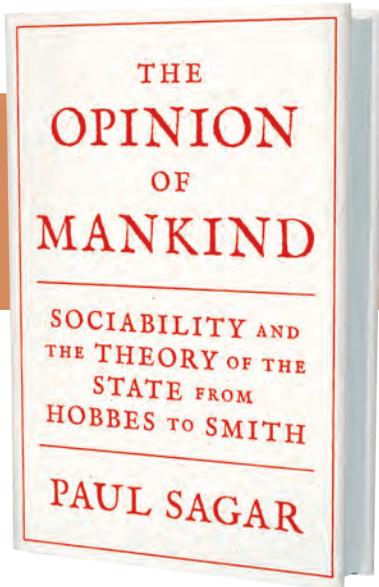
Praise for the previous edition:

“[It is] refreshing to dip into history and listen to what the great minds of the ages have had to say about politics.... [T]he editors provide brief, useful introductions to each writer as well as lengthy excerpts from his or her work.”

—*Washington Post Book World*

“An excellent contribution to the existing literature for students in politics and Western civilization courses. The book will also be of great benefit to an interested general audience.”

—Andrei S. Markovits, University of California, Santa Cruz



The Opinion of Mankind

Sociability and the Theory of the State from Hobbes to Smith

PAUL SAGAR

What is the modern state? Conspicuously undertheorized in recent political theory, this question persistently animated the best minds of the Enlightenment. Recovering David Hume and Adam Smith's long-underappreciated contributions to the history of political thought, *The Opinion of Mankind* considers how, following Thomas Hobbes's epochal intervention in the mid-seventeenth century, subsequent thinkers grappled with explaining how the state came into being, what it fundamentally might be, and how it could claim rightful authority over those subject to its power.

Hobbes has cast a long shadow over Western political thought, particularly regarding the theory of the state. This book shows how Hume and Smith, the two leading lights of the Scottish Enlightenment, forged an alternative way of thinking about the organization of modern politics. They did this in part by going back to the foundations: rejecting Hobbes's vision of human nature and his skepticism about our capacity to form stable societies over time. In turn, this was harnessed to a deep reconceptualization of how to think philosophically about politics in a secular world. The result was an emphasis on the "opinion of mankind," the necessary psychological basis of all political organization.

Demonstrating how Hume and Smith broke away from Hobbesian state theory, *The Opinion of Mankind* also suggests ways in which these thinkers might shape how we think about politics today, and in turn how we might construct better political theory.

Paul Sagar is a junior research fellow at King's College, University of Cambridge.

APRIL

978-0-691-17888-2 **Cloth \$45.00S**
264 pages. 6 x 9.

POLITICAL THEORY

How David Hume and Adam Smith forged a new way of thinking about the modern state

"*The Opinion of Mankind* is an ambitious, incisive contribution to political theory. In rehabilitating David Hume and Adam Smith as pivotal figures in the canon of Western political philosophy, the book shows how their writings raise fundamental questions about social cooperation and political subjection. The result is a historically rich and philosophically subtle exploration of eighteenth-century moral and political thought that will change how we interpret the role of sociability and government in the period. While crafting boldly original exegesis, Sagar at the same time asks us to ponder more deeply the relationship between past thinkers and contemporary political theory."

—Richard Bourke, author of *Empire and Revolution*

Envy in Politics

GWYNETH H. McCLENDON

Why do governments underspend on policies that would make their constituents better off? Why do people participate in contentious politics when they could reap benefits if they were to abstain? In *Envy in Politics*, Gwyneth McClendon contends that if we want to understand these and other forms of puzzling political behavior, we should pay attention to envy, spite, and the pursuit of admiration—all manifestations of our desire to maintain or enhance our status within groups. Drawing together insights from political philosophy, behavioral economics, psychology, and anthropology, McClendon explores how and under what conditions status motivations influence politics.

Through surveys, case studies, interviews, and an experiment, McClendon argues that when concerns about in-group status are unmanaged by social conventions or are explicitly primed by elites, status motivations can become drivers of public opinion and political participation. McClendon focuses on the United States and South Africa—two countries that provide tough tests for her arguments while also demonstrating that the arguments apply in different contexts.

From debates over redistribution to the mobilization of collective action, *Envy in Politics* presents the first theoretical and empirical investigation of the connection between status motivations and political behavior.

Gwyneth H. McClendon is an assistant professor in the Wilf Family Department of Politics at New York University.

MAY

978-0-691-17865-3 **Cloth \$29.95S**
192 pages. 9 b/w illus. 22 tables. 5 ½ x 8 ½.

Princeton Studies in Political Behavior
Tali Mendelberg, Series Editor

POLITICAL SCIENCE | COMPARATIVE POLITICS

How envy, spite, and the pursuit of admiration influence politics

“In *Envy in Politics*, McClendon shows that envy affects political behavior in varied and interesting ways that political scientists have previously ignored. This thought-provoking and important book is a very good read.”

—Ruth Grant, Duke University

“This book is likely the most comprehensive study of how envy and status-based motivations can shape political outcomes. It integrates material from a wide number of social science studies, develops clear definitions and testable hypotheses, and demonstrates the power of status motivations on important political decisions. McClendon’s research is impressive.”

—Roger Petersen, Massachusetts Institute of Technology

Southern Nation

Congress and White Supremacy after Reconstruction

DAVID A. BATEMAN, IRA KATZNELSON
& JOHN S. LAPINSKI

*How southern members
of Congress remade the
United States in their own
image after the Civil War*

“This ambitious book shows just how deeply entrenched white subjugation of blacks has been throughout southern political history. *Southern Nation* will bring new perspectives to younger generations about the seeds of racial inequality that persist in our nation today.”

—Wendy J. Schiller, coauthor of *Electing the Senate: Indirect Democracy before the Seventeenth Amendment*

“*Southern Nation* makes a major contribution to the history of Congress, casting new light on the development of its rules and its policy outputs. There is nothing quite like this book in scope, sophistication, and theme.”

—J. Morgan Kousser, author of *Colorblind Injustice: Minority Voting Rights and the Undoing of the Second Reconstruction*

No question has loomed larger in the American experience than the role of the South. *Southern Nation* examines how southern members of Congress shaped national public policy and American institutions from Reconstruction to the New Deal—and along the way remade the region and the nation in their own image.

The central paradox of southern politics was how such a highly diverse region could be transformed into a coherent and unified bloc—a veritable nation within a nation that exercised extraordinary influence in politics. This book shows how this unlikely transformation occurred in Congress, the institutional site where the South’s representatives forged a new relationship with the rest of the nation. Drawing on an innovative theory of southern lawmaking, in-depth analyses of key historical sources, and congressional data, *Southern Nation* traces how southern legislators confronted the dilemma of needing federal investment while opposing interference with the South’s racial hierarchy, a problem they navigated with mixed results before choosing to prioritize white supremacy above all else.

Southern Nation reveals how southern members of Congress gradually won for themselves an unparalleled role in policymaking, and left all southerners—whites and blacks—disadvantaged to this day. At first, the successful defense of the South’s capacity to govern race relations left southern political leaders locally empowered but marginalized nationally. With changing rules in Congress, however, southern representatives soon became strategically positioned to profoundly influence national affairs.

David A. Bateman is assistant professor of government at Cornell University. **Ira Katznelson** is Ruggles Professor of Political Science and History at Columbia University. **John S. Lapinski** is professor of political science at the University of Pennsylvania.

Copublished with the Russell Sage Foundation

JULY

978-0-691-12649-4 **Cloth \$35.00S**

312 pages. 68 b/w illus. 8 tables. 10 maps. 6 x 9.

Princeton Studies in American Politics:

Historical, International, and Comparative Perspectives

Ira Katznelson, Eric Schickler, Martin Shefter, and Theda Skocpol, Series Editors

POLITICAL SCIENCE | AMERICAN HISTORY

Censored

Distraction and Diversion Inside China's Great Firewall

MARGARET E. ROBERTS

As authoritarian governments around the world develop sophisticated technologies for controlling information, many observers have predicted that these controls would be ineffective because they are easily thwarted and evaded by savvy Internet users. In *Censored*, Margaret Roberts demonstrates that even censorship that is easy to circumvent can still be enormously effective. Taking advantage of digital data harvested from the Chinese Internet and leaks from China's Propaganda Department, this important book sheds light on how and when censorship influences the Chinese public.

Roberts finds that much of censorship in China works not by making information impossible to access but by requiring those seeking information to spend extra time and money for access. By inconveniencing users, censorship diverts the attention of citizens and powerfully shapes the spread of information. When Internet users notice blatant censorship, they are willing to compensate for better access. But subtler censorship, such as burying search results or introducing distracting information on the web, is more effective because users are less aware of it. Roberts challenges the conventional wisdom that online censorship is undermined when it is incomplete and shows instead how censorship's porous nature is used strategically to divide the public.

Drawing parallels between censorship in China and the way information is manipulated in the United States and other democracies, Roberts reveals how Internet users are susceptible to control even in the most open societies. Demonstrating how censorship travels across countries and technologies, *Censored* gives an unprecedented view of how governments encroach on the media consumption of citizens.

Margaret E. Roberts is assistant professor of political science at the University of California, San Diego.

MARCH

978-0-691-17886-8 **Cloth \$29.95S**

280 pages. 26 b/w illus. 2 tables. 5 ½ x 8 ½.

POLITICAL SCIENCE | COMMUNICATIONS

A groundbreaking and surprising look at contemporary censorship in China

"It seems difficult to conceive of another country that will be more consequential to the world's future than China, and this book helps explain the regime's strategy for maintaining its control of information now and in the future. Roberts brings an impressive array of appropriate data sources and careful analysis to her nuanced argument."

—Tim Groeling, University of California, Los Angeles

"This cogent book contends that the current understanding of censorship is overly focused on fear-based repressive strategies of deletion and encouragement of self-censorship, and shows that governments have expanded abilities to manipulate information in more subtle and effective ways. This is an exciting contribution to our understanding of censorship and information control in China."

—Mary Gallagher, University of Michigan

Who Fights for Reputation

The Psychology of Leaders in International Conflict

KEREN YARHI-MILO

How psychology explains why a leader is willing to use military force to protect or salvage reputation

“Yarhi-Milo addresses an important theoretical question, proposes a novel and powerful psychological explanation, and systematically tests it with statistical analysis, experiments, and case studies. The multimethod research design is a model for scholars to emulate, and the detailed case studies alone are worth the price of the book. *Who Fights for Reputation* has enormous implications for policy, and is a major contribution to international relations and political psychology.”
—Jack S. Levy, Rutgers University

“*Who Fights for Reputation* argues that internal disposition, or self-monitoring, explains why some leaders place a high priority on establishing and defending a reputation for resolve when it comes to using military force. With superb and comprehensive analysis, this book does a masterful job of explaining why this theory of self-monitoring is relevant to foreign policy decisions.”
—Richard K. Herrmann, Ohio State University

In *Who Fights for Reputation*, Keren Yarhi-Milo provides an original framework, based on insights from psychology, to explain why some political leaders are more willing to use military force to defend their reputation than others. Rather than focusing on a leader’s background, beliefs, bargaining skills, or biases, Yarhi-Milo draws a systematic link between a trait called self-monitoring and foreign policy behavior. She examines self-monitoring among national leaders and advisers and shows that while high self-monitors modify their behavior strategically to cultivate image-enhancing status, low self-monitors are less likely to change their behavior in response to reputation concerns.

Exploring self-monitoring through case studies of foreign policy crises during the terms of U.S. presidents Carter, Reagan, and Clinton, Yarhi-Milo disproves the notion that hawks are always more likely than doves to fight for reputation. Instead, Yarhi-Milo demonstrates that a decision maker’s propensity for impression management is directly associated with the use of force to restore a reputation for resolve on the international stage.

Who Fights for Reputation offers a brand-new understanding of the pivotal influence that psychological factors have on political leadership, military engagement, and the protection of public prestige.

Keren Yarhi-Milo is assistant professor of politics and international affairs at Princeton University. She is the author of *Knowing the Adversary: Leaders, Intelligence, and Assessment of Intentions in International Relations* (Princeton).

AUGUST

978-0-691-18128-8 **Paper \$32.95S**

978-0-691-18034-2 **Cloth \$95.00S**

344 pages. 20 b/w illus. 20 tables. 6 x 9.

Princeton Studies in International History and Politics

G. John Ikenberry, Marc Trachtenberg, and William C. Wohlforth, Series Editors

POLITICAL SCIENCE | INTERNATIONAL RELATIONS

The Neuroscience of Emotion

A New Synthesis

RALPH ADOLPHS & DAVID J. ANDERSON

The Neuroscience of Emotion presents a new framework for the neuroscientific study of emotion across species. Written by Ralph Adolphs and David J. Anderson, two leading authorities on the study of emotion, this accessible and original book recasts the discipline and demonstrates that in order to understand emotion, we need to examine its biological roots in humans and animals. Only through a comparative approach that encompasses work at the molecular, cellular, systems, and cognitive levels will we be able to comprehend what emotions do, how they evolved, how the brain shapes their development, and even how we might engineer them into robots in the future.

Showing that emotions are ubiquitous across species and implemented in specific brain circuits, Adolphs and Anderson offer a broad foundation for thinking about emotions as evolved, functionally defined biological states. The authors discuss the techniques and findings from modern neuroscience investigations of emotion and conclude with a survey of theories and future research directions.

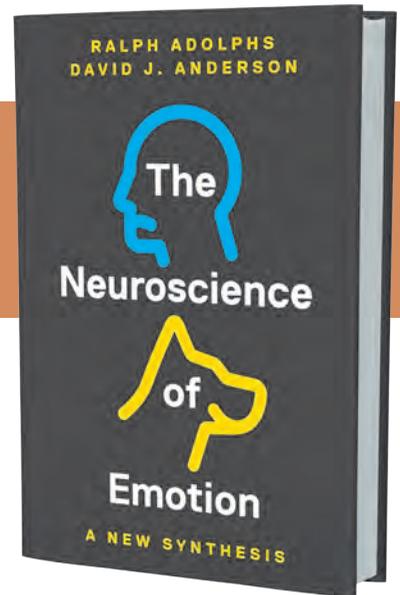
Featuring color illustrations throughout, *The Neuroscience of Emotion* synthesizes the latest in neuroscientific work to provide deeper insights into how emotions function in all of us.

Ralph Adolphs is the Bren Professor of Psychology, Neuroscience, and Biology at the California Institute of Technology (Caltech) and Director of the Caltech Brain Imaging Center. He is the coeditor of *Living without an Amygdala*. **David J. Anderson** is the Seymour Benzer Professor of Biology and Director of the Tianqiao and Chrissy Chen Institute for Neuroscience at the California Institute of Technology and an Investigator with the Howard Hughes Medical Institute.

JUNE

978-0-691-17408-2 **Cloth \$45.00S**
376 pages. 43 color + 5 b/w illus. 6 x 9.

NEUROSCIENCE | PSYCHOLOGY



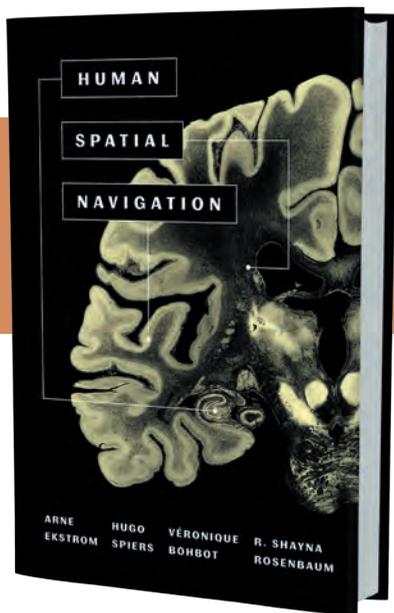
A new framework for the neuroscientific study of emotions in humans and animals

“This timely and thought-provoking book provides excellent analysis of neuroscience and psychology studies of emotions in humans and animals, and connects the two domains in an original and engaging way. *The Neuroscience of Emotion* brings sophisticated concepts and cutting-edge techniques to the discussion.”

—Kent Berridge, University of Michigan

“*The Neuroscience of Emotion* argues that studying how emotions are implemented in the brain can offer a deeper understanding of their functions. Written by two major leaders in the field, this fantastic and rigorous book will influence many students and researchers.”

—Luiz Pessoa, University of Maryland



Human Spatial Navigation

ARNE EKSTROM, HUGO SPIERS,
VÉRONIQUE BOHBOT & R. SHAYNA ROSENBAUM

The first book to comprehensively explore the cognitive foundations of human spatial navigation

“Synthesizing a large body of animal and human studies, this book provides a much-needed overview of the neural and behavioral mechanisms underlying spatial navigation. It also describes the clinical literature in this field and shows the links between memory and navigation. The very first textbook on human spatial navigation, it will be invaluable to undergraduate students and researchers.”

—Thomas Wolbers, German Center for Neurodegenerative Diseases

Humans possess a range of navigation and orientation abilities, from the ordinary to the extraordinary. All of us must move from one location to the next, following habitual routes and avoiding getting lost. While there is more to learn about how the brain underlies our ability to navigate, neuroscience and psychology have begun to converge on some important answers. In *Human Spatial Navigation*, four leading experts tackle fundamental and unique issues to produce the first book-length investigation into this subject.

Opening with the vivid story of Puluwat sailors who navigate in the open ocean with no mechanical aids, the authors begin by dissecting the behavioral basis of human spatial navigation. They then focus on its neural basis, describing neural recordings, brain imaging experiments, and patient studies. Recent advances give unprecedented insights into what is known about the cognitive map and the neural systems that facilitate navigation. The authors discuss how aging and diseases can impede navigation, and they introduce cutting-edge network models that show how the brain can act as a highly integrated system underlying spatial navigation. Throughout, the authors touch on fascinating examples of able navigators, from the Inuit of northern Canada to London taxi drivers, and they provide a critical lens into previous navigation research, which has primarily focused on other species, such as rodents.

An ideal book for students and researchers seeking an accessible introduction to this important topic, *Human Spatial Navigation* offers a rich look into spatial memory and the neuroscientific foundations for how we make our way in the world.

Arne Ekstrom is associate professor of psychology at the University of California, Davis. **Hugo Spiers** is associate professor of neuroscience at University College London. **Véronique Bohbot** is associate professor of psychiatry at McGill University. **R. Shayna Rosenbaum** is professor of psychology at York University.

AUGUST

978-0-691-17174-6 **Cloth \$60.00S**
224 pages. 20 color + 40 b/w illus. 7 x 10.

NEUROSCIENCE | PSYCHOLOGY

Fundamentals of Microbiome Science

How Microbes Shape Animal Biology

ANGELA E. DOUGLAS

This book provides an accessible and authoritative guide to the fundamental principles of microbiome science, an exciting and fast-emerging new discipline that is reshaping many aspects of the life sciences. Resident microbes in healthy animals—including humans—can dictate many traits of the animal host. This animal microbiome is a second immune system conferring protection against pathogens; it can structure host metabolism in animals as diverse as reef corals and hibernating mammals; and it may influence animal behavior, from social recognition to emotional states. These microbial partners can also drive ecologically important traits, from thermal tolerance to diet, and have contributed to animal diversification over long evolutionary timescales.

Drawing on concepts and data across a broad range of disciplines and systems, Angela Douglas provides a conceptual framework for understanding these animal-microbe interactions while shedding critical light on the scientific challenges that lie ahead. Douglas explains why microbiome science demands creative and interdisciplinary thinking—the capacity to combine microbiology with animal physiology, ecological theory with immunology, and evolutionary perspectives with metabolic science.

An essential introduction to a cutting-edge field that is revolutionizing the life sciences, this book explains why microbiome science presents a more complete picture of the biology of humans and other animals, and how it can deliver novel therapies for many medical conditions and new strategies for pest control.

Angela E. Douglas is the Daljit S. and Elaine Sarkaria Professor of Insect Physiology and Toxicology at Cornell University. Her books include *The Symbiotic Habit* (Princeton) and *Symbiotic Interactions*.

MAY

978-0-691-16034-4 **Cloth \$39.50S**

224 pages. 76 b/w illus. 2 tables. 6 x 9.

BIOLOGY | MICROBIOLOGY

An essential introduction to microbiome science, a new cutting-edge discipline that is transforming the life sciences

“This ambitious book surveys animal-microbe associations and reimagines the animal as a multi-organismal being. Douglas nicely balances conceptual points and detailed examples, making the text both accessible to anyone with a basic background in biology and interesting to specialists in symbiosis and microbiome science. *Fundamentals of Microbiome Science* is a very enjoyable read.”

—David Berry, University of Vienna

“A very significant contribution to the emerging field of animal-bacteria symbiosis. I am not aware of any other book that covers this topic so exhaustively and in such an integrated, up-to-date, and comprehensive manner.”

—François Leulier, Centre National de la Recherche Scientifique, Paris

Mechanical Design of Structural Materials in Animals

JOHN M. GOSLINE

Mechanical Design of Structural Materials in Animals explores the principles underlying how molecules interact to produce the functional attributes of biological materials: their strength and stiffness, ability to absorb and store energy, and ability to resist the fatigue that accrues through a lifetime of physical insults. These attributes play a central role in determining the size and shape of animals, the ways in which they can move, and how they interact with their environment. By showing how structural materials have been designed by evolution, John Gosline sheds important light on how animals work.

Gosline elucidates the pertinent theories for how molecules are arranged into macromolecular structures and how those structures are then built up into whole organisms. In particular, Gosline develops the theory of discontinuous, fiber-reinforced composites, which he employs in a grand synthesis to explain the properties of everything from the body wall of sea anemones to spiders' silks and insect cuticles, tendons, ligaments, and bones. Although the theories are examined in depth, Gosline's elegant discussion makes them accessible to anyone with an interest in the mechanics of life.

Focusing on the materials from which animals are constructed, this book answers fundamental questions about mechanical properties in nature.

John M. Gosline (1943–2016) was a professor of zoology at the University of British Columbia from 1973 to 2008. He is the coauthor of *Mechanical Design in Organisms* (Princeton).

MAY

978-0-691-17687-1 **Cloth \$75.00X**
352 pages. 110 b/w illus. 7 x 10.

BIOLOGY | BIOMECHANICS

134 **Biology | Ecology**

A Theory of Global Biodiversity

BORIS WORM & DEREK P. TITTENSOR

The number of species found at a given point on the planet varies by orders of magnitude, yet large-scale gradients in biodiversity appear to follow some very general patterns. Little mechanistic theory has been formulated to explain the emergence of observed gradients of biodiversity both on land and in the oceans. Based on a comprehensive empirical synthesis of global patterns of species diversity and their drivers, *A Theory of Global Biodiversity* develops and applies a new theory that can predict such patterns from few underlying processes.

The authors show that global patterns of biodiversity fall into four consistent categories, according to where species live: on land or in coastal, pelagic, and deep ocean habitats. The fact that most species groups, from bacteria to whales, appear to follow similar biogeographic patterns of richness within these habitats points toward some underlying structuring principles. Based on empirical analyses of environmental correlates across these habitats, the authors combine aspects of neutral, metabolic, and niche theory into one unifying framework. Applying it to model terrestrial and marine realms, the authors demonstrate that a relatively simple theory that incorporates temperature and community size as driving variables is able to explain divergent patterns of species richness at a global scale.

Boris Worm is Killam Professor of Biology at Dalhousie University. **Derek P. Tittensor** is adjunct professor of biology at Dalhousie University and senior marine biodiversity scientist at the United Nations Environment Programme World Conservation Monitoring Centre.

MAY

978-0-691-15483-1 **Cloth \$49.95S**
184 pages. 51 b/w illus. 9 tables. 6 x 9.

Monographs in Population Biology
Simon A. Levin and Henry S. Horn, Series Editors

ECOLOGY | BIOLOGY

What Can Be Computed?

A Practical Guide to the Theory of Computation

JOHN MACCORMICK

What Can Be Computed? is a uniquely accessible yet rigorous introduction to the most profound ideas at the heart of computer science. Crafted specifically for undergraduates who are studying the subject for the first time, and requiring minimal prerequisites, the book focuses on the essential fundamentals of computer science theory and features a practical approach that uses real computer programs (Python and Java) and encourages active experimentation. It is also ideal for self-study and reference.

The book covers the standard topics in the theory of computation, including Turing machines and finite automata, universal computation, nondeterminism, Turing and Karp reductions, undecidability, time-complexity classes such as P and NP, and NP-completeness, including the Cook-Levin Theorem. But the book also provides a broader view of computer science and its historical development, with discussions of Turing's original 1936 computing machines, the connections between undecidability and Gödel's incompleteness theorem, and Karp's famous set of twenty-one NP-complete problems.

Throughout, the book recasts traditional computer science concepts by considering how computer programs are used to solve real problems. Standard theorems are stated and proven with full mathematical rigor, but motivation and understanding are enhanced by considering concrete implementations. The book's examples and other content allow readers to view demonstrations of—and experiment with—a wide selection of the topics it covers. The result is an ideal text for an introduction to the theory of computation.

- ◆ An accessible and rigorous introduction to the essential fundamentals of computer science theory
- ◆ Features a practical, interactive approach using real computer programs (Python in the text, with Java alternatives online)
- ◆ Features a companion website that includes additional materials

John MacCormick is associate professor of computer science at Dickinson College and a leading teacher, researcher, and writer in his field.

MARCH

978-0-691-17066-4 **Cloth \$85.00S**
408 pages. 163 b/w illus. 13 tables. 7 x 10.

COMPUTER SCIENCE | MATHEMATICS

An accessible and rigorous textbook for introducing undergraduates to computer science theory

“What Can Be Computed?” should succeed brilliantly in capturing the imagination of students. Using Python as a model of computation, MacCormick is able to introduce the greatest ideas in computer science theory as quickly and intuitively as possible. On the other hand, no rigor is ever lost. Over and over, he finds ways to take very complex concepts and boil them down to small and concrete components. Core concepts are presented in a beautiful and accessible way.”
—Matt Franklin, University of California, Davis

“I would love to adopt this text for my introduction to theory of computation course. The level and coverage is perfect for undergraduates. The text hits the sweet spot by carefully presenting the ideas without an overwhelming level of mathematical sophistication. I want my students to come away from the course with the big ideas rather than struggling through mathematical notation and formal proofs, and this text does exactly that.”
—Jill Zimmerman, Goucher College

A Student's Guide to Python for Physical Modeling

Updated Edition

JESSE M. KINDER & PHILIP NELSON

A fully updated tutorial on the basics of the Python programming language for science students

Praise for the previous edition:

“The text serves as an excellent stepping stone into the world of using Python in computational science for undergraduate students with a strong background in mathematics.”

—Kevin Thielen and Vivienne Tien,
Computing in Science & Engineering

“At a brief 160 pages, it is quite possible for a motivated student to complete it in just a few sittings. . . . [A] fine introduction.”

—*American Journal of Physics*

“Kinder and Nelson’s engaging introduction to scientific programming in Python is careful and thorough, and focuses on actual essentials. Bread-and-butter concepts and techniques, belonging in every computational scientist’s toolbox, are presented with well-thought-out examples drawn from daily research practice. This is a clever text, inviting students to take that most important step: to dive right in and start coding.”

—Cornelis Storm, Eindhoven
University of Technology

Python is a computer programming language that is rapidly gaining popularity throughout the sciences. This fully updated edition of *A Student's Guide to Python for Physical Modeling* aims to help you, the student, teach yourself enough of the Python programming language to get started with physical modeling. You will learn how to install an open-source Python programming environment and use it to accomplish many common scientific computing tasks: importing, exporting, and visualizing data; numerical analysis; and simulation. No prior programming experience is assumed.

This tutorial focuses on fundamentals and introduces a wide range of useful techniques, including:

- ◆ Basic Python programming and scripting
- ◆ Numerical arrays
- ◆ Two- and three-dimensional graphics
- ◆ Monte Carlo simulations
- ◆ Numerical methods, including solving ordinary differential equations
- ◆ Image processing
- ◆ Animation

Numerous code samples and exercises—with solutions—illustrate new ideas as they are introduced. Web-based resources also accompany this guide and include code samples, data sets, and more. This current edition brings the discussion of the Python language, Spyder development environment, and Anaconda distribution up to date. In addition, a new appendix introduces Jupyter notebooks.

Jesse M. Kinder is assistant professor of physics at the Oregon Institute of Technology. **Philip Nelson** is professor of physics at the University of Pennsylvania. His books include *From Photon to Neuron* (Princeton) and *Physical Models of Living Systems*.

APRIL

978-0-691-18057-1 **Paper \$24.95X**

978-0-691-18056-4 **Cloth \$75.00X**

176 pages. 5 color illus. 8 x 10.

COMPUTER SCIENCE | PHYSICS

An Introduction to Analysis

ROBERT C. GUNNING

An Introduction to Analysis is an essential primer on basic results in algebra, topology, and calculus for undergraduate students considering advanced degrees in mathematics. Ideal for use in a one-year course, this unique textbook also introduces students to rigorous proofs and formal mathematical writing—skills they need to excel.

With a range of problems throughout, *An Introduction to Analysis* treats n -dimensional calculus from the beginning—differentiation, the Riemann integral, series, and differential forms and Stokes's theorem—enabling students who are serious about mathematics to progress quickly to more challenging topics. The book discusses basic material on point set topology, such as normed and metric spaces, topological spaces, compact sets, and the Baire category theorem. It covers linear algebra as well, including vector spaces, linear mappings, Jordan normal form, bilinear mappings, and normal mappings.

Proven in the classroom, *An Introduction to Analysis* is the first textbook to bring these topics together in one easy-to-use and comprehensive volume.

- ◆ Provides a rigorous introduction to calculus in one and several variables
- ◆ Introduces students to basic topology
- ◆ Covers topics in linear algebra, including matrices, determinants, Jordan normal form, and bilinear and normal mappings
- ◆ Discusses differential forms and Stokes's theorem in n dimensions
- ◆ Also covers the Riemann integral, integrability, improper integrals, and series expansions

Robert C. Gunning is professor of mathematics at Princeton University. His books include *Lectures on Riemann Surfaces* and *Lectures on Complex Analytic Varieties* (both Princeton).

MARCH

978-0-691-17879-0 **Cloth \$75.00X**
392 pages. 25 b/w illus. 7 x 10.

MATHEMATICS

An essential undergraduate textbook on algebra, topology, and calculus

“Gunning’s book is a great introduction to analysis that presents precisely what an honors analysis course should include. The writing is rigorous but lively, and much interesting mathematics is packed in it.”

—Wilhelm Schlag, University of Chicago

“A valuable, wonderful book.”

—Camil Muscalu, Cornell University

Linear Systems Theory

Second Edition

JOÃO P. HESPANHA

*A fully updated textbook
on linear systems theory*

Praise for the previous edition:

“This is a splendidly written textbook; in fact, the next time I teach linear systems theory, I intend to use it. It covers the right amount of theory and presents the material at a perfect level for students. It has many exercises, most of which are well suited for beginning engineering graduate students.”

—Alan J. Laub, *SIAM Review*

“*Linear Systems Theory* gives a good presentation of the main topics on linear systems as well as more advanced topics related to controller design. The scholarship is sound and the book is very well written and readable.”

—Ian Petersen, University of New South Wales

“This book provides a sound basis for an excellent course on linear systems theory. It covers a breadth of material in a fast-paced and mathematically focused way. It can be used by students wishing to specialize in this subject, as well as by those interested in this topic generally.”

—Geir E. Dullerud, University of Illinois, Urbana-Champaign

Linear systems theory is the cornerstone of control theory and a well-established discipline that focuses on linear differential equations from the perspective of control and estimation. This updated second edition of *Linear Systems Theory* covers the subject's key topics in a unique lecture-style format, making the book easy to use for instructors and students. João Hespanha looks at system representation, stability, controllability and state feedback, observability and state estimation, and realization theory. He provides the background for advanced modern control design techniques and feedback linearization and examines advanced foundational topics, such as multivariable poles and zeros and LQG/LQR.

The textbook presents only the most essential mathematical derivations and places comments, discussion, and terminology in sidebars so that readers can follow the core material easily and without distraction. Annotated proofs with sidebars explain the techniques of proof construction, including contradiction, contraposition, cycles of implications to prove equivalence, and the difference between necessity and sufficiency. Annotated theoretical developments also use sidebars to discuss relevant commands available in MATLAB, allowing students to understand these tools. This second edition contains a large number of new practice exercises with solutions. Based on typical problems, these exercises guide students to succinct and precise answers, helping to clarify issues and consolidate knowledge. The book's balanced chapters can each be covered in approximately two hours of lecture time, simplifying course planning and student review.

- ◆ Easy-to-use textbook in unique lecture-style format
- ◆ Sidebars explain topics in further detail
- ◆ Annotated proofs and discussions of MATLAB commands
- ◆ New practice exercises with solutions included

João P. Hespanha is professor of electrical engineering in the Center for Control, Dynamical Systems and Computation at the University of California, Santa Barbara.

MARCH

978-0-691-17957-5 **Cloth \$85.00X**
348 pages. 52 b/w illus. 8 x 10.

MATHEMATICS | ENGINEERING

Mathematical Foundations of Quantum Mechanics

New Edition

JOHN VON NEUMANN

Translated by Robert T. Beyer
Edited by Nicholas A. Wheeler

Quantum mechanics was still in its infancy in 1932 when the young John von Neumann, who would go on to become one of the greatest mathematicians of the twentieth century, published *Mathematical Foundations of Quantum Mechanics*—a revolutionary book that for the first time provided a rigorous mathematical framework for the new science. Robert Beyer's 1955 English translation, which von Neumann reviewed and approved, is cited more frequently today than ever before. But its many treasures and insights were too often obscured by the limitations of the way the text and equations were set on the page. In this new edition of this classic work, mathematical physicist Nicholas Wheeler has completely reset the book in TeX, making the text and equations far easier to read. He has also corrected a handful of typographic errors, revised some sentences for clarity and readability, provided an index for the first time, and added prefatory remarks drawn from the writings of Léon Van Hove and Freeman Dyson. The result brings new life to an essential work in theoretical physics and mathematics.

John von Neumann (1903–57) was one of the most important mathematicians of the twentieth century. His work included fundamental contributions to mathematics, physics, economics, and the development of the atomic bomb and the computer. He was a founding member of the Institute for Advanced Study in Princeton. **Nicholas A. Wheeler** is a mathematical physicist and professor emeritus of physics at Reed College.

MARCH

978-0-691-17857-8 **Paper \$99.50S**
978-0-691-17856-1 **Cloth \$150.00S**
328 pages. 5 b/w illus. 7 x 10.

MATHEMATICS | PHYSICS

Molecular Machines

A Materials Science Approach

GIOVANNI ZOCCHI

Molecular Machines presents a dynamic new approach to the physics of enzymes and DNA from the perspective of materials science. Unified around the concept of molecular deformability—how proteins and DNA stretch, fold, and change shape—this book describes the complex molecules of life from the innovative perspective of materials properties and dynamics, in contrast to structural or purely chemical approaches. It covers a wealth of topics, including nonlinear deformability of enzymes and DNA, the chemo-dynamic cycle of enzymes, supra-molecular constructions with internal stress, nano-rheology and viscoelasticity, and chemical kinetics, Brownian motion, and barrier crossing. Essential reading for researchers in materials science, engineering, and nanotechnology, the book also describes the landmark experiments that have established the materials properties and energy landscape of large biological molecules.

Molecular Machines is also ideal for the classroom. It gives graduate students a working knowledge of model building in statistical mechanics, making it an essential resource for tomorrow's experimentalists. In addition, mathematical methods are introduced in the bio-molecular context. The result is a generalized approach to mathematical problem solving that enables students to apply their findings more broadly.

Molecular Machines represents the next leap forward in nanoscience, as researchers strive to harness proteins, enzymes, and DNA as veritable machines in medicine, technology, and beyond.

Giovanni Zocchi is professor of physics at the University of California, Los Angeles.

JULY

978-0-691-17386-3 **Cloth \$65.00X**
208 pages. 94 b/w illus. 6 x 9.

PHYSICS | BIOPHYSICS | ENGINEERING

Mathematics | Physics 139

The Semiclassical Way to Dynamics and Spectroscopy

ERIC J. HELLER

A graduate-level text that examines the semiclassical approach to quantum mechanics

“This thought-provoking and unique presentation of the semiclassical approach to quantum physics is by a grandmaster of the subject. All the explanations are original and the illustrations are beautiful. The subject deserves to be better known to researchers in physics and chemistry.”
—Michael Berry, University of Bristol

“This book captures a lifetime of research, achievement, and deep understanding of the semiclassical approach to quantum mechanics. I know of no volume that covers the same eclectic mix of topics, and Heller’s insights are invaluable. A heroic undertaking, this book will be a tremendous boon to many research fields.”
—Kieron Burke, University of California, Irvine

Physical systems have been traditionally described in terms of either classical or quantum mechanics. But in recent years, semiclassical methods have developed rapidly, providing deep physical insight and computational tools for quantum dynamics and spectroscopy. In this book, Eric Heller introduces and develops this subject, demonstrating its power with many examples.

In the first half of the book, Heller covers relevant aspects of classical mechanics, building from them the semiclassical way through the semiclassical limit of the Feynman path integral. The second half of the book applies this approach to various kinds of spectroscopy, such as molecular spectroscopy and electron imaging and quantum dynamical systems with an emphasis on tunneling. Adopting a distinctly time-dependent viewpoint, Heller argues for semiclassical theories from experimental and theoretical vantage points valuable to research in physics and chemistry. Featuring more than two hundred figures, the book provides a geometric, phase-space, and coordinate-space pathway to greater understanding.

Filled with practical examples and applications, *The Semiclassical Way to Dynamics and Spectroscopy* is a comprehensive presentation of the tools necessary to successfully delve into this unique area of quantum mechanics.

- ◆ A comprehensive approach for using classical mechanics to do quantum mechanics
- ◆ More than two hundred figures to assist intuition
- ◆ Emphasis on semiclassical Green function and wave packet perspective, as well as tunneling and spectroscopy
- ◆ Chapters include quantum mechanics of classically chaotic systems, quantum scarring, and other modern dynamical topics

Eric J. Heller is the Abbott and James Lawrence Professor of Chemistry and Professor of Physics at Harvard University and a member of the National Academy of Sciences. He is the author of *Why You Hear What You Hear* (Princeton).

JUNE

978-0-691-16373-4 **Cloth \$99.50S**
480 pages. 213 b/w illus. 7 x 10.

PHYSICS

Lectures on the Infrared Structure of Gravity and Gauge Theory

ANDREW STROMINGER

Lectures on the Infrared Structure of Gravity and Gauge Theory presents an accessible, graduate-level synthesis of a frontier research area in theoretical physics. Based on a popular Harvard University course taught by the author, this book gives a concise introduction to recent discoveries concerning the structure of gravity and gauge theory at very long distances. These discoveries unite three disparate but well-developed subjects in physics.

The first subject is the soft theorems, which were found by particle physicists in the 1950s to control the behavior of low-energy photons and are essential for all collider predictions. The second subject is asymptotic symmetries, found by general relativists in the 1960s to provide a surprising, infinite number of exact relations between distinct physical phenomena. The third subject is the memory effect, the measurement of which is sought in upcoming gravitational wave observations. An exploration of the physical and mathematical equivalence of these three subjects has provided a powerful new perspective on old results and led to a plethora of new results, involving symmetries of QED, gluon scattering amplitudes, flat-space holography in quantum gravity, black hole information, and beyond.

Uniquely connective and cutting-edge, *Lectures on the Infrared Structure of Gravity and Gauge Theory* takes students and scholars to the forefront of new developments in the discipline.

- ◆ Materials are presented in a “lecture notes” style with problem sets included
- ◆ Concise and accessible pedagogical approach
- ◆ Overview of recent developments in theoretical physics
- ◆ Topics include soft theorems, the memory effect, asymptotic symmetries with applications to QED, Yang-Mills theory, quantum gravity, and black holes

Andrew Strominger is the Gwill E. York Professor of Physics at Harvard University.

MARCH

978-0-691-17973-5 **Paper \$49.95S**
978-0-691-17950-6 **Cloth \$125.00S**
184 pages. 25 color illus. 6 x 9.

PHYSICS

A short, graduate-level synthesis of recent developments in theoretical physics, from a pioneer in the field

“Strominger is a master physicist and instructor. In this wonderful new book, he patiently and clearly takes the reader on a journey a half century in the making, laying the quantum mechanical foundations for gauge theories and gravity. Students and practitioners alike have a rare opportunity to be guided by a prime mover of modern physics whose pedagogical skills are second to none.”

—Brian Greene, Columbia University

“This clear and concise book describes the infrared structure of gauge theories and gravity. It contains many new and interesting results. An invaluable reference, its solid scholarship will survive the test of time and make a significant contribution to the field.”

—Juan Maldacena, Institute for Advanced Study