

The life of Science



The Scientific Revolution

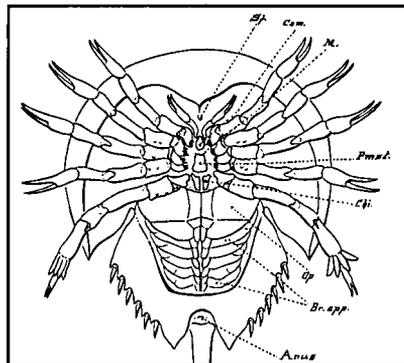
Steven Shapin

“In his subtle analysis, Steven Shapin provides a rich and rewarding account of current thinking on the the making of the modern scientific world view.”—Roy Porter

“A provocative new reading of a formative period in the history of science.”—*Kirkus Reviews*

Cloth £15.95/\$19.95 230 pages 30 halftones

*In the UK and Europe, available at your bookseller or directly from our distributor in the UK:
voice 01243 779777, fax 01243 820250,
email customer@wiley.co.uk*



Life's Splendid Drama

Evolutionary Biology and the Reconstruction of Life's Ancestry, 1860–1940

Peter J. Bowler

“Peter Bowler has written a history of the rise and fall of evolutionary morphology in paleontology and systematics that is both magisterial in its scope and definitive in its treatment. Among much else, he explains the tension between ideal morphology and evolutionary morphology that has remained so puzzling to present-day readers. What was so hard about replacing archetypes with ancestors? Much more than one can imagine.”

—David L. Hull, Northwestern University

Cloth £30.25/\$37.95 540 pages
4 halftones, 42 line drawings

Science and Its Conceptual Foundations series

The University of Chicago Press

5801 South Ellis Avenue, Chicago, Illinois 60637

<http://www.press.uchicago.edu>



“I have no special talents. I am only passionately curious.”

—*Albert Einstein*

The Quotable Einstein

Collected and edited by Alice Calaprice

With a foreword by Freeman Dyson

Albert Einstein was a prolific writer, and he is immensely quotable. This collection of approximately 550 quotations by and about Einstein arranges his thoughts and ideas thematically. Here are Einstein's opinions on everything from America and Americans, Germans and Germany, war and peace, politics, religion and science, to more personal subjects, such as love and marriage, music, and pets. Also included are a chronology including biographical data, an updated family tree, answers to the most common questions about Einstein, and a selected bibliography. The book includes an engaging foreword by the well-known physicist Freeman Dyson.

Albert Einstein is better-known today as a pop-culture icon than as an actual person. *The Quotable Einstein* brings to life the “real” Einstein, by turns thoughtful and opinionated, irascible and benign. It is a book filled with surprises, and it makes for delightful reading.

Cloth: £12.95 ISBN 0-691-02696-3

Cosmology and Controversy

The Historical Development of Two Theories of the Universe

Helge Kragh

In this significant new book, Helge Kragh presents the development of scientific cosmology for the first time as a historical event, one that embroiled many famous scientists in a controversy over the very notion of an evolving universe with a beginning in time. In rich detail he examines how the big-bang theory drew inspiration from and eventually triumphed over rival views, mainly the steady-state theory and its concept of a stationary universe of infinite age. By exploring the similarities and tensions between the theories, Kragh provides the reader with indispensable background for understanding much of today's discussion about the universe.

“The ultimate validation of the big-bang theory makes for a fascinating book. Kragh [tells] the story in comprehensive and compelling detail.”

—Jack Zirker, National Optical Astronomy Observatories

Cloth: £27.50 ISBN 0-691-02623-8



Sympathetic Attractions

Magnetic Practices, Beliefs, and Symbolism in Eighteenth-Century England

Patricia Fara

In this interdisciplinary study of eighteenth-century England, Patricia Fara explores how natural philosophers constructed magnetism as a science, appropriating the skills and knowledge of experienced navigators. Fara organizes her discussion into themes, including commercialization, imperialism, instruments and invention, the role of language, attitudes toward the past, and the relationship between religion and natural philosophy.

She shows that natural philosophers, proclaiming themselves as the only true experts on magnetism, actively participated in massive transformations of English life. In their bids for public recognition as elite specialists, they engaged in controversies that resonated with religious, economic, moral, gender, and political implications.

43 illustrations

Cloth: £35.00 ISBN 0-691-01099-4 Due December

Stalinist Science

Nikolai Kremmentsov

Some scholars have viewed the Soviet state and science as two monolithic entities—with bureaucrats as oppressors, and scientists as defenders of intellectual autonomy. Based on previously unknown archival documents, *Stalinist Science* shows that this picture is oversimplified. In fact, a symbiosis of state bureaucrats and scientists established a much more terrifying system of control over the scientific community than any critic of Soviet totalitarianism had feared. Some scientists, though, developed elaborate devices to avoid and exploit this control system. Here Nikolai Kremmentsov provides an in-depth look at the collision between Soviet science and the Soviet state.

Cloth: £37.50 ISBN 0-691-02877-X Due February 1997

New in paperback

Trust in Numbers

The Pursuit of Objectivity in Science and Public Life

Theodore M. Porter

"The essence of science is quantification, and this is what holds Porter's fascination. The book is an engaging attempt to account for the prestige and power of quantitative methods in the modern world."—Ann Oakley, *British Medical Journal*

"A highly original series of historical and philosophical reflections. . . ."

—M. Norton Wise, *British Journal for the History of Science*

Paper: £13.95 ISBN 0-691-02908-3

PRINCETON UNIVERSITY PRESS

AVAILABLE FROM YOUR BOOKSELLER

OR DIRECTLY FROM THE PUBLISHER: (609) 883-1759 U.S. • (1-243) 779777 U.K.

WORLD WIDE WEB SITE: [HTTP://PUP.PRINCETON.EDU](http://PUP.PRINCETON.EDU)

Telling Lives in Science: Essays on Scientific Biography

Edited by Michael Shortland and Richard Yeo

A collection of original essays by leading historians of science which explore for the first time the nature and development of scientific biography and its importance in forming our ideas about what scientists do and how science works. This volume will appeal to science historians and general readers interested in the popularisation of science.

£50.00 HB 0 521 43323 1 309 pp. 1996

Edward Frankland

Chemistry, Controversy and Conspiracy in Victorian England

Colin A. Russell

The first scientific biography of Edward Frankland, probably the most eminent chemist of nineteenth century Britain.

'...he writes with authority on Frankland's contribution to chemistry...a triumph...it commands the readers attention...I commend it without reservation.' Fred Dainton, *New Scientist*

£65.00 HB 0 521 49636 5 555 pp. 1996

Science and Civilisation in China Volume VI:3

Volume VI: Biology and Biological Technology Part 3: Agro-Industries and Forestry

Christian Daniels and Nicholas K. Menzies

Series Editor: the late Joseph Needham

This volume contains two separate works. The first, by Christian Daniels, is a comprehensive history of Chinese sugar-cane technology from ancient times to the early 20th century. The second, by Nicholas K. Menzies, is a history of forestry in China.

£95.00 HB 0 521 41999 9 770 pp. 1996

The Microscope in the Dutch Republic

The Shaping of Discovery

Edward G. Ruestow

Focusing on the two seventeenth-century pioneers of microscopic discovery, the Dutchmen Jan Swammerdam and Antoni van Leewenhoek, Ruestow demonstrates that their uneasiness with their social circumstances spurred their discoveries. He concludes by contrasting their early microscopic efforts with the institutionalized microscopic research that began in the 19th century.

£40.00 HB 0 521 47078 1 360 pp. 1996

A History of Modern Planetary Physics

Volume 1: Nebulous Earth

The Origin of the Solar System and the Core of the Earth from Laplace to Jeffreys

Stephen G. Brush

The first of three volumes explores the history of ideas about the Earth's interior from 19th century through the 1960s.

£35.00 HB 0 521 44171 4 324 pp. 1996

Volume 2: Transmuted Past

The Age of the Earth and the Evolution of the Elements from Lyell to Patterson

Summarises the attempts to estimate the age of the Earth during the 19th and 20th centuries.

£30.00 HB 0 521 55213 3 152 pp. 1996

Volume 3: Fruitful Encounters

The Origin of the Solar System and of the Moon from Chamberlain to Apollo

Surveys the development of twentieth-century theories on the solar system's beginnings.

£37.50 HB 0 521 55214 1 366 pp. 1996

£100.00 Boxed Set 0 521 55215 X 1996

Cambridge books are available from good bookshops, alternatively phone UK + 44 (0)1223 325588 to order direct using your credit card, or fax UK +44 (0)1223 325959. For further information, please email Giulia Williams on science@cup.cam.ac.uk or browse our Worldwide Web server <http://www.cup.cam.ac.uk>



CAMBRIDGE
UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU

THE BRITISH SOCIETY FOR THE HISTORY OF SCIENCE

Membership of the Society, which normally includes a subscription to *The British Journal for the History of Science*, is open to all persons approved by the Council of the Society and elected at an ordinary meeting. The annual subscription for the membership year 1996 is £24.00 (\$48.00) or £12.00 (\$25.00) for associate membership, which includes students at centres of higher education. There is an Introductory Offer for ordinary members who pay £20.00 (\$40.00) for the first year. Applications for membership should be made on a form which is available from the Society's Executive Secretary at the address below. Other sterling rates may apply to overseas members.

The British Journal for the History of Science is the official organ of the Society. All correspondence on the contents of the *Journal* should be addressed to the Editor, Dr Janet Browne, The Wellcome Institute for the History of Medicine, 183 Euston Road, London, NW1 2BE, England. Books for review should be sent to the Reviews Editor, Dr John Henry, Science Studies Unit, University of Edinburgh, 21 Buccleuch Place, Edinburgh EH8 9LN.

Advertising: Contact the Journals Advertising Manager, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU.

Other publications: BSHS Monograph Series is designed to allow the publication of monographic studies in the history of science quickly and cheaply. All correspondence on the subject of monographs, and any new suggestions for titles, should be sent to the Series Editor, Dr J. F. M. Clark, Centre for Linguistics and Chinese Studies, Clarendon Press Institute, Walton Street, Oxford OX1 2HG, England. Monographs are available from the Society's Executive Secretary. Recent titles are as follows:

4. *The Royal Society and Its Fellows 1660–1700: The Morphology of an Early Scientific Institution*. By Michael Hunter. Second edition 1994. £10.00/\$19.00 (£8.00/\$15.00 to members).
5. *Francis Bacon's Natural Philosophy: A New Source. A Transcription of Manuscript Hardwick 72A with Translation and Commentary*. By Graham Rees, assisted by Christopher Upton. 1984. £7.90/\$17.00 (£5.60/\$12.00 to members).
6. *Archives of the British Chemical Industry, 1750–1914: A Handlist*. By Peter J. T. Morris and Colin A. Russell. Contributing editor John Graham Smith. 1988. £14.50/\$31.00 (£9.00/\$19.00 to members).
7. *Index to the Scientific Correspondence of John William Dawson*. By Susan Sheets-Pyenson. 1992. £20.00/\$44.00 (£12.00/\$26.00 to members).
8. *Science and Nature: Essays in the History of the Environmental Sciences*. Ed. by Michael Shortland. 1993. £10.00/\$19.00 (£8.00/\$15.00 to members).
9. *In the Shadow of Lavoisier: The 'Annals de Chemie' and the Establishment of a New Science*. By Maurice Crosland. 1994. £9.00/\$17.00 (£7.50/\$13.00 to members).
10. *E. Ray Lankester and the Making of Modern British Biology*. By Joe Lester and Peter Bowler. 1995. £9.00/\$17.00 (£7.50/\$13.00 to members).

Each year, the Society publishes a *List of Theses in History of Science* and a *Guide to History of Science Courses*. Please contact the Executive Secretary for copies.

The Society's *Newsletter*, an informal publication, appears in February, June and October each year. It is free to members, £8.00 (\$14.00) for institutions and non-members. The Society's Education Section also has a regular *Newsletter, Education Forum*.

Administrative business of the Society is handled by The Executive Secretary, Wing-Commander G. Bennett, 31 High Street, Stanford in the Vale, Faringdon, Oxfordshire SN7 8LH. The Society is registered in England as a Limited Company (No. 562208) and is a Registered Charity (No. 258854).

Copying: This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Organizations in the USA who are also registered with the CCC may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to CCC of the per-copy fee of \$5.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0007-0874/96 \$5.00+.00.

ISI Tear Sheet Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorized to supply single copies of separate articles for private use only.

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions.

For all other use, permission should be sought from Cambridge or the American branch of Cambridge University Press.

Back volumes are obtainable as follows: Volumes 1–23: Wing-Commander G. Bennett, 31 High Street, Stanford in the Vale, Faringdon, Oxon SN7 8LH. For volume 24 onwards, apply to Cambridge University Press.

Information on *The British Journal for the History of Science* and all other Cambridge journals can be accessed via <http://www.cup.cam.ac.uk/> and in North America via <http://www.cup.org/>.

Claims for missing issues should be made immediately on receipt of the subsequent issue.

Printed in the United Kingdom by the University Press, Cambridge

*The British
Journal
for the
History of
Science*

BJHS

*Volume 29
Part 4, No. 103*

December 1996

- 385 The origin of modern astronomical theories of tides: Chrisogono, de Dominis and their sources
FEDERICO BONELLI AND LUCIO RUSSO
- 493 Manufacturing nature: science, technology and Victorian consumer culture
IWAN RHYS MORUS
- 435 Constructing South Kensington: the buildings and politics of T. H. Huxley's working environments
SOPHIE FORGAN AND GRAEME GOODAY
- 469 Darwin at Llanymynech: the evolution of a geologist
MICHAEL B. ROBERTS
- 479 Book reviews
- 493 Books received
- 495 Books reviewed
- 499 Index of authors
- 501 Report of Council for the year 1995



Published for The British Society for the History of Science
by Cambridge University Press

CAMBRIDGE
UNIVERSITY PRESS



0007-0874(199609)29:3;1-7