



Physics, the Human Adventure

From Copernicus to Einstein and Beyond

by Stephen G. Brush and Gerald Holton

DESCRIPTION

Winner of the 2001 Joseph Hazen Education Prize of the History of Science Society

Paperback

9780813529080, \$54.95

Date: March 2001

Pages: 598



Physics, the Human Adventure is the third edition of the classic text *Introduction to Concepts and Theories in Physical Science*. Authored by Gerald Holton, the text was a landmark in science education. It was the first modern textbook in physics (or in any other science) to make full and effective use of the history and philosophy of science in presenting for both the general and the science-oriented student an account of the nature of physical science. A second edition, prepared by Stephen G. Brush, brought the book up to date by increasing the coverage of topics in modern physics and by taking account of recent scholarly research in the history of science.

In the new book *Physics, The Human Adventure*, each of the chapters has been reworked to further clarify the physics concepts and to incorporate recent physical advances and research. The book shows the unifying power of science by bringing in connections to chemistry, astronomy, and geoscience. In short, the aid of the new edition is to teach good physics while presenting physical science as a human adventure that has become a major force in our civilization.

New chapters discuss theories of the origin of the solar system and the expanding universe; fission, fusion, and the Big Bang–Steady State Controversy; and thematic elements and styles in scientific thought. New topics include:

- Theories of vision: does the eye send out rays or receive them?
- Distances in the solar system
- The prediction of the return of Halley's comet and analysis of deviations from Kepler's laws
- Angular momentum conservation and Laplace's nebular hypothesis
- Relation between symmetries and conservation laws: Emmy Noether's

theorem

- First estimates of atomic sizes
- Consequences of the indistinguishability of elementary particles of the same kind
- Applications of quantum mechanics to many-particle systems
- Dirac's prediction of anti-matter
- The anthropic principle and other controversial issues on the frontiers of research

AUTHOR/EDITOR BIOGRAPHY

GERALD HOLTON is Mallinckrodt Professor of Physics and History of Science, Emeritus, Harvard University.

STEPHEN G. BRUSH is Distinguished University Professor of the History of Science, University of Maryland, College Park.

Both authors are Fellows of the American Physical Society, and each has served as President of the History of Science Society.

Get 30% OFF • Use code RUP30

Free Shipping in the USA • USA & Latin American: rutgersuniversitypress.org • 1-800-621-2736

Canada: <https://www.ubcpres.ca/rutgers-university-press> • Rest of the World: <https://mngbookshop.co.uk/publisher/rutgers-university-press/>

Booksellers / bulk sales: sales@rutgersuniversitypress.org • Examination and desk copies: rutgersuniversitypress.org/educator