B.Gal-Or

Cosmology, Physics, and Philosophy

Recent Advances as a Core Curriculum Course

This treatise provides an interdisciplinary perspective establishing a common ground for science and philosophy: a perspective applicable to a variety of college courses ranging from the foundations of the exact sciences, or socio-philosophical studies in general science, to advanced topics in physical sciences (quantum mechanics, relativistic cosmology, modern astrophysics, and the physics of time anisotropies). Addressed to a wide audience, the material is organized largely into two distinct levels, one providing an indispensable core of basic knowledge for every advanced, modern student, and the second more intensive applications to be used selectively in specific fields, such as physico-philosophy and physicomathematics. In bringing this material together, and fusing it into a unified, cohesive field, the author challenges prevailing assumptions in scientific practice and methodology, calling for reeducation in such realms as the study of time, relativity, causality, large- and small-scale physics, idealism, materialism, and rationalism. Throughout, the scientist is urged to recognize and develop a philosophical foundation, while the philosopher is reminded that his results must be consistent, verifiable, and compatible with logic.

1981. Approx. 510 pages. Cloth DM 69,-; approx. US \$ 32.10 ISBN 3-540-90581-2



Springer-Verlag Berlin Heidelberg New York

Communications in **Mathematical Physics**

Chief Editor A. Jaffe, Cambridge, MA

Editorial Board H. Araki, Kyoto

J. Glimm, New York, NY

R. Haag, Hamburg

O. Lanford, Berkeley, CA

J. L. Lebowitz, New Brunswick, NJ

E. Lieb, Princeton, NJ

J. Moser, Zürich

K. Osterwalder, Zürich

B. Simon, Pasadena, CA

Ya. G. Sinai, Moscow

T. Spencer, New York, NY

R. Stora, Geneva

S.-T. Yau, Princeton, NJ

Advisory Board

M. F. Atiyah, Oxford

A. Connes, Bures-sur-Yvette

S. Hawking, Cambridge

G. 't Hooft, Utrecht

I. Singer, Berkeley, CA

C. N. Yang, Stony Brook, NY

Das Heft enthält eine Beilage des Springer-Verlages Berlin Heidelberg New York