

jective knowledge of the world, which is governed by deterministic laws, and he thought that the unambiguous language of science could serve as a step towards a better understanding between human beings. It even seemed to him that the scientific method might be superior to other more subjective ways of forming a picture of the world—philosophy, poetry and religion.

By 1951 all this belief was gone. The border between object and subject had been blurred, deterministic laws had been replaced by statistical ones, and scientists had contributed nothing to a better understanding among nations but had helped in inventing and applying the most terrible weapons of destruction.

The impact of these developments on a highly sensitive and ethical personality such as Born's left its scars. In moving essays, such as "What Is Left To Hope For" and the postscript, he comes to the conclusion that technology and war are incompatible in human society. Nevertheless, he offers a ray of hope in that the contradictions of political ideologies between East and West may be resolved by applying the idea of complementarity as used by Niels Bohr. This is the ultimate service that natural philosophy can offer in the present crisis.

One more *leitmotiv* pervades the book; it is Born's veneration for Albert Einstein with whom he had deep bonds of friendship. He takes pains to explain Einstein's many fundamental and revolutionary contributions to physical thought—in statistical mechanics, the quantum nature of light, and relativity. Born's regard was not diminished when Einstein's conviction, "God does not play dice," prevented him from accepting the statistical interpretation of quantum mechanics.

In the present time young physicists are brought up with such concepts as relativity and the uncertainty principle, and they take them for granted. It will be of lasting value to them to follow how one of the originators of these ideas struggled with them and made every effort to elucidate them for others. In addition, the reader will made the acquaintance of a person of great dignity, honesty and sincerity.

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Gasdynamics, Vol. 1: Nonequilibrium Flows, Part II

P. P. Wegener, ed.

236 pp. Marcel Dekker, New York, 1970. \$13.50

In classical gasdynamics it is assumed that the streaming material maintains a state of local thermodynamic equilibrium, even though it undergoes changes of its physical state. Actually,

any changes that take place with a finite speed are accompanied by departures from equilibrium, because the relaxation processes that establish equilibrium take some time. The extent of the departure depends on the relative rates of the processes that disrupt and reestablish equilibrium, and if the former predominate one has to turn to a nonequilibrium description.

As for so many advances of 20th-century physics, the first step in this direction was made by Albert Einstein when he developed a theory for the propagation of sound in a chemically reacting medium in 1920. This fact is pointed out by L. J. F. Broer (Technical University of Eindhoven, The Netherlands) in the, historically oriented, first of the four review articles of this volume, "Basis properties of relaxation gas-dynamics."

The other articles deal with fairly specific topics and cover these in considerable depth. The authors are Boateh Chu (Yale University), K. N. C. Bray (University of Southampton, UK) and Raymond Sedney (Research Institute for Advanced Studies, Baltimore) and their topics are "Weak nonlinear waves," "Nonequilibrium in nozzle flows" and "The method of characteristics."

The book should be useful for researchers in the aerospace and related fields and as additional background material for advanced fluid-mechanics courses.

Rolf Landshoff
Palo Alto, California

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CONFERENCE PROCEEDINGS

Acoustical Holography, Vol. 3 (Conf. proc. Third International Symposium on Acoustical Holography, Newport Beach, Calif., 29-31 July 1970). A. F. Metherell, ed. 399 pp. Plenum, New York, 1971. \$19.50

Advances in X-Ray Analysis, Vol. 14 (Conf. proc. Nineteenth Annual Conference on Applications of X-Ray Analysis, 5-7 Aug. 1970). C. S. Barrett, J. B. Newkirk, C. Ruud, eds. 500 pp. Plenum, New York, 1971. \$25.00

Applied Solid State Physics (Conf. proc. Bathsheva de Rothschild Seminar on Applied Physics, Jerusalem, Israel, 21 Apr.-14 May 1968). 243 pp. Plenum (Weizman Science Press), New York, 1970. \$13.50

Computational Methods in Band Theory (Conf. proc. IBM Watson Research Center, Yorktown Heights, New York, 14, 15 May 1970). P. M. Marcus, J. F. Janak, A. R. Williams, eds. 578 pp. Plenum, New York, 1971. \$25.00

Far-Infrared Properties of Solids (Conf. proc. NATO Advanced Study Institute,

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