

## Lectures in Physics

**Statistical Mechanics.** A Set of Lectures. R. P. FEYNMAN. Notes taken by R. Kikuchi and H. A. Feiveson. Jacob Shaham, Ed. Benjamin, Reading, Mass., 1972. xiv, 354 pp., illus. Cloth, \$17.50; paper, \$8.95. *Frontiers in Physics*.

In the heroic days at Symphony Hall there were those who declared that they would stand in line for hours merely to hear the Boston Symphony play scales. I must admit to similar feelings about R. P. Feynman: I would drop everything to hear him lecture on the municipal drainage system. Feynman's research has set the idiom and tone of postwar theoretical physics, and his inimitable pedagogy, from popular lectures through freshman physics and on up, is a joy to behold.

It may therefore only be because my views verge on idolatry that I find the present volume disappointing. True, the voice of Feynman rings out through the transcriptions of the notetakers, and startling points of view and novel illuminations are to be found. There are expositions of Feynman's own work on path integral techniques, the polaron problem, and superfluidity, as well as essays on superconductivity, the electron gas, the Ising model, and the familiar canon of more elementary topics. In short, what the book presents is statistical mechanics as it was in the late 1950's and early '60's.

But areas of the subject that have flowered in the last decade are not touched upon, which is somewhat amiss in a series that takes as its unifying theme that "the problem of communicating in a coherent fashion the recent developments in the most exciting and active fields of physics seems particularly pressing today." (One exception: there is a discussion of the remarkable theory of phase coherence in superconductors of B. D. Josephson—whose name, inexplicably, is not mentioned.)

Thus nothing is said about the broad developments in our understanding of critical points, which have received so much attention in the last ten years: the Onsager solution of the Ising model is presented as an elegant mathematical exercise. The devastating implications of the form of the solution for any simple theory of any critical point are not mentioned, nor are the results of the extensive experimental and numerical studies of recent years. Nonequilibrium problems and work on the foundations of the subject, to name two

other areas of vigorous recent progress, are also overlooked.

No doubt, these omissions are in part matters of taste, in part consequences of the need for selection in so sprawling a subject, but they are also, I think, a sign of an overall preoccupation with the subject as it existed over a decade ago. On these terms, one can have no quarrel with the book. If the title of the series were changed to "Milestones in Physics" and the series editor would deign to write a preface appropriate to the volume at hand, I could write a review in which every paragraph was as breathless as the first.

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## Anthropology in the Arctic

**Circumpolar Problems.** Habitat, Economy, and Social Relations in the Arctic. Proceedings of a symposium, Luleå, Sweden, and Tromsø, Norway, Sept. 1969. GÖSTA BERG, Ed. Pergamon, New York 1973. xiii, 194 pp., illus. \$19.50. Wenner-Gren Center International Symposium Series, vol. 21.

The 22 papers published in this volume were written as contributions to a symposium arranged by the Nordic Council for Anthropological Research. Anthropologists from most countries with arctic areas under their jurisdiction were invited to participate. There was no Canadian participant, but research in arctic and subarctic Canada is represented by the work of two U.S. scholars. There is no underlying theme or focus uniting the papers in this book, and coverage is extremely broad. Five contributions are devoted to archeological problems, 13 to culture change and economic development, and two each deal with ethnographic and ethnohistorical data.

The archeological papers, devoted to research in northern Scandinavia, the Soviet Union, and Alaska, are disappointing. Four are concerned primarily with specialized regional issues and do not come to grips with current problems in arctic archeology. The fifth, by Helge Larsen, compares the economy, settlement patterns, and social structure of the coastal Tareormiut and inland Nunamiut of northwest Alaska, a subject of basic theoretical

importance to Eskimo culture history. Larsen's comprehensive account is weakened, however, by failure to consider the most recent archeological and ethnographic interpretations concerning the two groups.

The contributions dealing with culture change and economic development provide a useful summary of the most significant research being conducted by anthropologists in all northern regions. Of particular interest is a paper by Vilhelm Aubert comparing the relationship between Lapps and the greater Norwegian society with that of Greenlanders and Danish society and noting the problems that result when marginal peoples lack control over their own lives. Dealing with a timely subject, Margaret Lantis traces the development and accomplishments of the current nativistic movement involving Alaskan Eskimos, Indians, and Aleuts with respect to such major issues as land claims and oil revenues. John Honigsmann describes the ethnic composition of Inuvik, an administrative center at the mouth of the Mackenzie River, and problems related to employment, education, and future participation by native peoples in the developing economy of the Canadian north. Rolf Kjellström provides a wide-ranging summary of Swedish Lapp culture change together with an analysis of the effects of migration to urban centers in search of wage employment.

Emphasizing more traditional ethnographic descriptions and interpretations, Juha Pentikäinen presents a detailed discussion of Lapp cultural diversity. Ethnohistorical analysis of Lutheran mission population records and hunting statistics maintained by the Danish government since 1873 has enabled Robert Petersen to interpret changing settlement patterns and hunting conditions in three districts of West Greenland.

Unfortunately, most of the papers in this volume are without maps, and there are no general maps of arctic regions to orient the reader even though many of the papers deal with areas little known even to arctic and subarctic specialists. It is apparent that many of the contributions were not written in English, but there is no statement concerning responsibility for the translations, which, in some cases, are poor. The uneven quality of the contents will cause little difficulty for the area specialist, but the nonspecialist should be warned that the symposium

does not constitute an adequate overview of current social scientific research in northern regions. In particular, the considerable and sophisticated archeological and ethnohistorical research being conducted in all areas of the north is not reported here. The volume does, however, provide an excellent summary of the range and inclusiveness of research on culture change and economic development. Readers, specialist and nonspecialist alike, will note with satisfaction that in all the northern regions scholars are actively engaged in defining patterns of development and assessing the environmental and cultural impact of current government programs.

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## Books Received

**Acoustical Holography.** Vol. 4. Proceedings of a symposium, Santa Barbara, Calif., Apr. 1972. Glen Wade, Ed. Plenum, New York, 1972. xii, 740 pp., illus. \$29.50.

**Advances in Heat Transfer.** Vol. 9. Thomas F. Irvine, Jr., and James P. Hartnett, Eds. Academic Press, New York, 1973. xiv, 434 pp., illus. \$26.50.

**Africa.** A Social Geography. Anthony Sillery. Halsted (Wiley), New York, ed. 2, 1973. xii, 252 pp. + plates. \$12.95.

**Algorithmic Combinatorics.** Shimon Even. Macmillan, New York, and Collier-Macmillan, London, 1973. xii, 260 pp., illus. \$13.95.

**The Amateur Photographer's Handbook.** Aaron Sussman. Crowell, New York, ed. 8, 1973. xiv, 562 pp., illus. \$8.95.

**Amorphous Magnetism.** Proceedings of a symposium, Detroit, Aug. 1972. Henry O. Hooper and Adriaan M. de Graaf, Eds. Plenum, New York, 1973. xiv, 444 pp., illus. \$26.50.

**Analyse Informatique.** M. Dassé. Masson, Paris, 1972. Vol. 1, Les Préliminaires. 132 pp., illus. Paper, 35F. Vol. 2, L'Accomplissement. 192 pp., illus. Paper, 50F. Collection Informatique.

**Analysis and Simulation of Biochemical Systems.** Proceedings of a meeting, Amsterdam, Aug. 1972. H. C. Hemker and B. Hess, organizers. North-Holland, Amsterdam, and Elsevier, New York, 1972. vi, 460 pp., illus. \$25.75. Federation of European Biochemical Societies Eighth Meeting, vol. 25.

**Atmospheric Energetics.** Jacques Van Mieghem. Clarendon (Oxford University Press), New York, 1973. x, 306 pp., illus. \$24. Oxford Monographs on Meteorology.

**Atoms and Molecules in Astrophysics.** Proceedings of the Scottish Universities Summer School in Physics (a NATO Advanced Study Institute), Stirling, Scotland, Aug. 1971. T. R. Carson and M. J.

Roberts, Eds. Academic Press, New York, 1972. xiv, 368 pp., illus. \$23.50.

**The Bacteriocins.** P. Reeves. Springer-Verlag, New York, 1972. xii, 142 pp. \$15.30. Molecular Biology, Biochemistry and Biophysics, 11.

**Bell.** Alexander Graham Bell and the Conquest of Solitude. Robert V. Bruce. Little, Brown, Boston, 1973. xii, 564 pp., illus. \$12.50.

**Bibliography on Methods of Social and Business Research.** William A. Belson and Beryl-Anne Thompson. Halsted (Wiley), New York, 1973. viii, 300 pp. \$15.50.

**Biblio-Profile on Human Communication and Its Disorders.** A Capsule State-of-the-Art Report with Bibliography. Prepared by the Information Center for Hearing, Speech, and Disorders of Human Communication, Johns Hopkins Medical Institutions, Baltimore, 1972. Vol. 4, Homotransplantation. xiv, 46 pp. Paper, \$1.50. Vol. 5, Viral Infection and Hearing. viii, 136 pp. Paper, \$3.

**The Bile Acids.** Chemistry, Physiology, and Metabolism. Vol. 2, Physiology and Metabolism. Padmanabhan P. Nair and David Kritchevsky, Eds. Plenum, New York, 1973. xiv, 330 pp., illus. \$19.50.

**Biochemical Basis of Inherited Human Disease.** MSS Information Corporation, New York, 1973. 206 pp., illus. \$15.

**Biochemistry, Ultrastructure and Physiology of Cerebral Anoxia, Hypoxia and Ischemia.** M. M. Cohen, J. F. Hartmann, Ruth A. Becker, J. A. Michael, and H. McIlwain. Karger, New York, 1973. viii, 132 pp., illus. \$15.20. Monographs in Neural Sciences, vol. 1.

**Biogenesis of Plant Cell Wall Polysaccharides.** Proceedings of a symposium, New York, Aug. 1972. Frank Loewus, Ed. Academic Press (Harcourt Brace Jovanovich), New York, 1973. xiv, 380 pp., illus. \$14.

**Biology.** James D. Ebert, Ariel G. Loewy, Richard S. Miller, and Howard A. Schneiderman. Holt, Rinehart and Winston, New York, 1973. xviii, 798 pp., illus. \$12.50.

**Cancer in the United States.** Abraham M. Lilienfeld, Morton L. Levin, and Irving I. Kessler. Harvard University Press, Cambridge, Mass., 1972. xxvi, 546 pp., illus. \$12. Vital and Health Statistics Monographs.

**Causes and Prevention of Blindness.** Proceedings of a seminar, Jerusalem, Aug. 1971. I. C. Michaelson and Elaine R. Berman, Eds. Academic Press, New York, 1973. xvi, 656 pp., illus. \$11.

**Cerambycidae of North America.** Part 6, No. 1, Taxonomy and Classification of the Subfamily Lepturinae. E. Gorton Linsley and John A. Chemsak. University of California Press, Berkeley, 1972. viii, 138 pp. + plates. Paper, \$5.50.

**Chemical and Radionuclide Food Contamination.** MSS Information Corporation, New York, 1973. 190 pp., illus. \$15.

**Chemical Technology.** An Encyclopedic Treatment. Vol. 4, Petroleum and Organic Chemicals. Barnes and Noble (Harper and Row), New York, 1973. xxxii, 792 pp., illus. \$42.50; by subscription, \$35.

**Chemistry.** An Ecological Approach. Roger G. Gymer. Harper and Row, New York, 1973. xxiv, 802 pp., illus. \$12.95. Harper's Chemistry Series.

**Chemistry for the Health Sciences.** George I. Sackheim and Ronald M. Schultz. Macmillan, New York, and Collier-Macmillan, London, ed. 2, 1973. viii, 516 pp., illus. \$9.

**The Chemistry of Enamines.** S. F. Dyke. Cambridge University Press, New York, 1973. viii, 94 pp., illus. Cloth, \$10.95; paper, \$4.95. Cambridge Chemistry Texts.

**The Chemistry of Fusion Technology.** Proceedings of a symposium, Boston, Apr. 1972. Dieter M. Gruen, Ed. Plenum, New York, 1972. xiv, 394 pp., illus. \$19.50.

**Chiral Dynamics.** Benjamin W. Lee. Gordon and Breach, New York, 1972. xii, 118 pp., illus. Cloth, \$8.95; paper, \$4.95. Documents on Modern Physics.

**Coherence and Quantum Optics.** Proceedings of a conference, Rochester, N.Y., June 1972. L. Mandel and E. Wolf, Eds. Plenum, New York, 1973. xiv, 914 pp., illus. \$37.50.

**Collected Reprints, 1971.** Atlantic Oceanographic and Meteorological Laboratories, Miami, Fla., 1972 (available from Superintendent of Documents, Washington, D.C.). Vol. 1, variously paged, illus. Paper, \$6. Vol. 2, variously paged, illus. Paper, \$5.55.

**Comparative Anatomy of the Vertebrates.** George C. Kent. Mosby, St. Louis, ed. 3, 1973. xii, 414 pp., illus. \$10.75.

**Comparative Physiology of Thermoregulation.** Vol. 3, Special Aspects of Thermoregulation. G. Causey Whitrow, Ed. Academic Press, New York, 1973. xii, 278 pp., illus. \$16.50.

**Computability Theory.** An introduction. Neil D. Jones. Academic Press, New York, 1973. xiv, 154 pp., illus. \$9.50.

**Conflict among Humans.** Some Basic Psychological and Social-Psychological Considerations. Robert D. Nye. Springer, New York, 1973. xvi, 204 pp. Cloth, \$7.50; paper, \$4.95.

**Confrontation in Psychotherapy.** Gerald Adler and Paul G. Myerson, Eds. Science House (Aronson), New York, 1973. 392 pp. \$15.

**Contemporary Clinical Psychology.** Herbert Goldenberg. Brooks/Cole (Wadsworth), Monterey, Calif., 1973. xii, 452 pp. \$10.50.

**Contemporary Sexual Behavior.** Critical Issues in the 1970's. Proceedings of a meeting. Joseph Zubin and John Money, Eds. Johns Hopkins University Press, Baltimore, 1973. xxii, 468 pp., illus. \$15.

**Current Problems in the Epidemiology of Cancer and Lymphomas.** Proceedings of a symposium, Düsseldorf, Germany, Nov. 1971. E. Grundmann and H. Tulinus, Eds. Springer-Verlag, New York, 1972. viii, 248 pp., illus. \$18.40. Recent Results in Cancer Research, 39.

**Degradation of Synthetic Organic Molecules in the Biosphere.** Natural, Pesticidal, and Various Other Man-Made Compounds. Proceedings of a conference, San Francisco, June 1971. National Academy of Sciences, Washington, D.C., 1972. x, 350 pp., illus. Paper, \$13.95.

**Digital Electronics.** F. Dokter and J. Steinhauer. Translated from the German edition (Eindhoven, 1969). Barnes and Noble (Harper and Row), New York, 1973. xii, 270 pp., illus. + plates. \$19.75. Philips Technical Library.