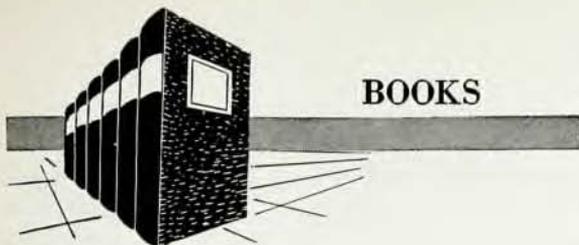


BOOKS



COSMIC RAYS. By L. Jánossy. 424 pp. Oxford University Press, New York, 1948. \$10.00.

This volume is the first complete treatise on cosmic rays to be published. It is a book on a difficult and intricate subject, prepared with care and competence by a man who has made for himself a prominent place among physicists for his original investigations in the field of which he writes. The contents include a historical introduction, a description of experimental techniques, a summary of the results of quantum electrodynamics and of meson theory which are of importance for the interpretation of cosmic ray phenomena, a discussion of the nature and properties of high-energy particles, a detailed description of geomagnetic effects, and a discussion of theoretical and experimental results concerning air showers and meson production. The appendices contain mathematical relations and tables which are useful in the evaluation of cosmic ray data and will find applications also in allied fields of physics.

In this book the effort is evident not to omit any experimental or theoretical result which was significant in the development of our knowledge of cosmic rays or which may prove of importance in future developments. As a consequence, clarity is sometimes sacrificed to completeness. This emphasis on details, added to a somewhat confusing organization of the material and to the intrinsic difficulty of the subject, makes the book hard to read. To a great extent, the imperfections noted are due to the difficulty of dealing with a subject which is still in a phase of rapid development. They do not detract from the value of the book, which everyone interested in cosmic rays will find very interesting and stimulating and which represents a source of extremely useful information.

Bruno Rossi
Massachusetts Institute of Technology

ALSOs. By Samuel A. Goudsmit. 259 pp. Henry Schuman, Inc., New York, 1947. \$3.50.

The well-kept secret of the Alsos Mission was hidden in its name; "Alsos" is Greek for Groves. The mission was created to follow the troops into Europe and to discover, by whatever means it could improvise, whether Germany was likely to drop an atom bomb upon this nation or its forces. To head it General Leslie R. Groves chose Dr. Samuel A. Goudsmit, then of the University of Michigan and the Massachusetts Institute of Technology Radiation Laboratories.

Dr. Goudsmit now gives us an account of his adventures, written with a charm and a gusto that sharpen the message he seeks to include. He believes he knows not only that the Germans failed, and were still treading the road to failure at the war's end, but also the reasons for

their failure. To Dr. Goudsmit, this inevitable failure was a direct outcome of the Nazi spirit. Science and the higher technology did not survive the police state and the nationalist myth, for science is bound up with freedom and internationalism. Science, as it gropes, offends the doctrinaire, who always knows his way; and in Germany, says Dr. Goudsmit, science fell before doctrine.

This contention is well documented by the author, at times by quotation and at times by reproduction of originals. To some, however, it may not be entirely convincing, for Dr. Goudsmit has sought to make his case strong by simplifying it. It is not difficult to think of other reasons and perhaps to become convinced that those reasons predominated: the unlikelihood (for Germany or for the United States) of completing a bomb in time to see it play a decisive part in the war; the diversion of effort to more immediate needs; the constant pummeling of German heavy industry by Allied bombs.

But in the sense of Dr. Goudsmit's larger message, these are quibbles. Whether Nazism itself made the creation of a bomb impossible, the fact remains (and Dr. Goudsmit proves it) that Nazism carried German science a long way down the road to destruction. Those elements of the police state which seem sometimes to be on the way toward appearance in this country would do for our science, the author believes, what they did for Nazism, and his book is a measured, thoughtful warning against permitting such a thing to happen.

Above all, it is worth reading, and the author's personality makes it a delight to do so. Sedate readers will enjoy a mild surprise if they check back on the references to I. I. Rabi and E. O. Salant in the index.

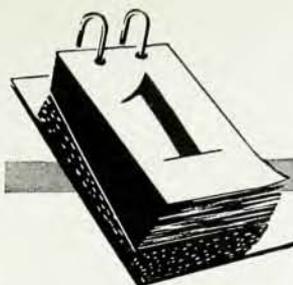
Stephen White
New York Herald Tribune

NUCLEAR FORCES, Volume I. By L. Rosenfeld. 181 pp. Interscience Publishers, Inc., New York, 1948. \$5.00.

More than a decade has elapsed since Bethe and Bacher published their monumental work on nuclear theory. By the time of World War II, many features of nuclear structure had been more clearly delineated. Although fundamental theoretical work ceased here during the war, much experimental work, now becoming available, was performed. In addition, theoretical research continued in the neutral countries of Switzerland, Ireland, and Sweden, and under the most trying conditions in occupied Netherlands. A thorough, detailed, critical survey of the present status of nuclear theory in the manner of Bethe and Bacher is greatly to be desired. Professor Rosenfeld has done us all a great service by performing this difficult task clearly, ably, and with great care for the two- and three-body problem in nuclear theory.

Volume I, the volume being reviewed here, contains Part I, "General Features of Nuclear Forces," and Part II, "Two nucleon systems on the hypothesis of central interaction." The second volume is to contain the discussion of saturation, the binding energy of H^3 , the effects of non-central forces, and, finally, the effects of velocity-depend-

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CALENDAR

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BOOKS *Continued from page 9*

ent terms in nuclear potentials. Part I of Volume I consists of a qualitative discussion of nuclear forces very much the same in spirit and content as the corresponding section in Bethe-Bacher. Part II, the major portion of Volume I, contains much new material, including a careful summary and discussion of the experimental results on neutron-proton and proton-proton scattering and their value in pinning down the nature of the forces between nucleons. In addition, Rosenfeld includes the work of the Swedish and Dutch theoretical physicists, such as Hulthen, Pais, Lubanski, and De Jager, which comprises new theoretical techniques and results not too well known here.

The publishers are to be complimented on the excellent binding and printing. One criticism is to be noted, that the index, the references, and the appendices to which the first volume refers have been placed in the second volume.

Herman Feshbach
Massachusetts Institute of Technology

Books Received

LIGHTING TO STIMULATE PEOPLE. By J. Lloyd Kamm. 174 pp. The Christopher Publishing House, Boston, 1948. \$2.50.

TABLES OF BESSEL FUNCTIONS OF FRACTIONAL ORDER. Part I. Prepared by The Computation Laboratory, National Applied Mathematics Laboratories, National Bureau of Standards. 413 pp. Columbia University Press, New York, 1948. \$7.50.

DIE DREI GRUNDPHÄNOMENE DER PHYSIK UND IHRE DEUTUNG. By R. Orthner. 112 pp. Franz Deuticke, Vienna, 1948.

INTRODUCTION TO ATOMIC PHYSICS (Second printing, second edition). By S. Tolansky. 315 pp. Longmans, Green and Company, New York, 1948. \$4.00.

CHEMICAL RUSSIAN, SELF-TAUGHT. By James W. Perry. 221 pp. Journal of Chemical Education, Easton, Pennsylvania, 1948. \$3.00.

CRYSTALLINE ENZYMES (Second edition). By J. H. Northrop, M. Kunitz, and R. M. Herriott. 352 pp. Columbia University Press, New York, 1948. \$7.50.

CONTRIBUTORS

George Gamow, a theoretical physicist, has written a series of popular books on science, starting with *Mr. Tompkins in Wonderland*. He has been professor of physics at George Washington University, Washington, D. C., since 1934.

Thomas Martin has been General Secretary of the Royal Institution since 1929. During the war he was in the government service as Deputy Director of Instrument Production in the Ministry of Supply. He has written on the life and work of Faraday, and edited Faraday's Diary.

Nathan L. Nichols preceded his present studies with four years of high-school teaching and two years of college teaching. His Ph.D., he says, will be from Michigan State College "during the year 1949, at least that is my present hope." After this he wants to become a physics instructor in a small college.

John E. Pfeiffer has been working at science reporting since his graduation from Yale, first as science and medicine editor of *Newsweek*, then in the Army and Navy. He is now science director for the Columbia Broadcasting System.

June 28 -July 16	Northwest Conference on Nuclear Science, Reed College, Portland, Oregon
July 5- August 11	Symposium on Theoretical and Nuclear Physics, Ann Arbor, Michigan
July 8-11	General Assembly, International Union of Pure and Applied Physics, Amsterdam, Holland
July 12-18	Conference on the Physics of Metals, under auspices of Netherlands Physical Society and Netherlands Committee of the International Union of Pure and Applied Physics, Amsterdam, Holland
July 12-18	International Commission of Optics, Delft, Holland
July 21-23	American Society of Civil Engineers, Seattle, Wash.
July 28 -August 3	International Union of Crystallography, Cambridge, Massachusetts
July 29-31	Second Symposium on Applied Mathematics, American Mathematical Society, Cosponsorship of American Institute of Physics, Cambridge, Massachusetts
August 2-6	Instrumentation Conference (Gordon Research Conferences), New London, New Hampshire
August 10	International Astronomical Union, Zurich, Switzerland
August 18-20	Society of Automotive Engineers (West Coast Meeting), San Francisco, California
August 19-28	International Union of Geophysics, Oslo, Norway
August 24-27	American Institute of Electrical Engineers (Pacific General Meeting), Spokane, Washington
August 24 -September 1	18th International Geological Congress, London, England
August 30 -September 4	American Chemical Society (Eastern Session), Washington, D. C.
September 1-10	International Society of Photogrammetry, Amsterdam, Holland
September 6-7	Mathematical Association of America, Madison, Wisconsin
September 6-10	American Chemical Society (Midwest Session), St. Louis, Missouri
September 7-10	American Mathematical Society, Madison, Wisconsin
September 7-11	Third Symposium on Combustion and Flame and Explosion Phenomena, Madison, Wisconsin
September 8-9	Society of Automotive Engineers (National Tractor Meeting), Milwaukee, Wisconsin
September 13-17	Instrument Society of America, Philadelphia, Pennsylvania
September 13-17	American Chemical Society (Western Session), Portland, Oregon
September 13-17	American Association for the Advancement of Science, Washington, D. C.
September 14-19	American Roentgen Ray Society, Chicago, Illinois
September 15-17	American Institute of Chemical Engineers, French Lick, Indiana
September 19-23	Illuminating Engineering Society, French Lick, Indiana
September 20-24	Illuminating Engineering Society (National Technical Conference), Boston, Massachusetts
September 21-24	International Rheological Congress, Scheveningen, Holland
September 27-29	Technical Association of the Pulp and Paper Industry, Poland Spring, Maine
September 27-30	American Society for Professional Geographers, Madison, Wisconsin
September 29 -October 2	Institute of Radio Engineers (West Coast Convention), Los Angeles, California