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Permanent positions are available in our expanding Optics group for experienced personnel interested in solving research problems for industry and government. Applicants should preferably have an advanced degree and research experience in one or more of the following areas:

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A. J. Paneral
ARMOUR RESEARCH FOUNDATION
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Electron and Nuclear Counters (Van Nostrand, 2nd ed., 1955). On the other hand, Curran's article on proportional counters provides an excellent survey of the field—a judiciously balanced presentation of theoretical and applied aspects of the proportional counter as a detector and as a spectrometer. Mott and Sutton's article on scintillation and Čerenkov counters is full of valuable information about phototubes and scintillators—solid, liquid (a notable omission is gaseous scintillators), organic, and inorganic. The various effects on scintillator response are not yet theoretically understood and the authors have usually elaborated on the empirical knowledge. This article is therefore a veritable mine of data. Its reference value can only be compared to Shapiro's article on nuclear emulsions. Here is an article in the true encyclopedic tradition, exhaustive, well referenced, and packed with intimate details.

As is usual, mesons and neutrons receive special treatment. York on cloud chambers and Glaser on bubble chambers are primarily for the high-energy physicist but make interesting reading for the uninitiated. Barschall's article on neutron detection is essentially descriptive. However, what it lacks in detail it more than makes up in its remarkably simple and lucid style. High-energy neutron detection is a comparatively recent problem and Siegel's article provides a good summary of developments in the subject prior to 1956. The lone article on electronic techniques which go with the detection problem is Benedetti and Findley's on coincidence methods. It seems somewhat misplaced, sandwiched between "Proportional Counters" and "Cloud Chambers", but then, as has been noted by numerous reviewers before, editorial excellence is not one of the strong points of the present "edition" of the *Handbuch*.

Much has been said about the usefulness of encyclopedias in general at a time when physics is developing as rapidly as it has in postwar years. However, most of the articles in the present volume should prove of lasting interest.

The volume is beautifully printed and bound, and all articles are written exclusively in English. Though some footnotes lead to a wild goose chase, the articles are well referenced and in some cases accompanied by exhaustive bibliographies.

Moments of Discovery. Vol. 1, The Origins of Science, 497 pp.; Vol. 2, The Development of Modern Science, 509 pp. Edited by George Schwartz and Philip W. Bishop. Basic Books, Inc., New York, 1958. 2-vol. set \$15.00. Reviewed by James MacLachlan, Earl Haig Collegiate Institute.

This attractively designed pair of volumes provides a panoramic view of the history of science through 750 pages of extracts from original writings. The editors have rounded out the work with short biographies of the eighty scientists represented, and with introductory surveys of the development of science in general and of the particular sciences that are treated in separate sections: astronomy, physics, chemistry, anatomy, physi-

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**IONOGRAPHIE
LES EMULSIONS NUCLEAIRES
Principes et Applications**

by Pierre Demers

Treatise and cyclopedia on nuclear emulsions. Order from: Les Presses Universitaires de Montréal. P.O. Box 6128, Montréal. Price \$20. For students and professors: \$14 plus postage (Can. funds).

To appear in April 1959

PHOTOGRAPHIE CORPUSCULAIRE II

Editor: Pierre Demers

108 authors, 67 articles on nuclear emulsions, 320 pages. Order from: Les Presses Universitaires de Montréal. P.O. Box 6128, Montréal. Price \$10. Special price if paid before April 1st: \$8 (Can. funds).

ology, genetics, and bacteriology. The order within sections is chronological.

In physics the articles range from Archimedes on levers, through Newton and Galileo on mechanics, Faraday and Hertz on electricity, to the original papers of Thomson on cathode rays, and Rutherford and Soddy on radioactivity. The developments of modern chemistry are shown through the writings of Dalton, Avogadro, Gay-Lussac, and Mendeléev. A sizable selection is made from Mendel's original paper on genetics, followed by an extract from de Vries on mutation theory.

Besides "moments" of discovery like those of new stars by Tycho Brahe and Galileo, or of new effects like Faraday's electromagnetic induction and Roentgen's x rays; the work includes proposals of new theories like that of Copernicus, the nebular hypothesis of Laplace, Huygens on the wave theory of light, and Linnaeus on biological classification. There are also a dozen articles on methods in science by such men as Bacon, Descartes, Bernard, Poincaré, and Jeans.

This work represents a middle way for introducing readers to the origin and developments of science. It lies between the various histories of science on the one hand, and the complete original writings of scientists on the other. Many of the selections here may be found in more complete form in source books in the particular sciences or in reprints. Others, particularly in biology, are less readily accessible.

The editors' survey is by no means inclusive, nor was it meant to be. Their choice of selections is reasonably well balanced: about one third are from the biological sciences and about one half are drawn from the seventeenth and nineteenth centuries. The twentieth century is hardly represented, probably because of the technical nature of original writings as specialization increases. As might be expected, many of the extracts are quite brief. But thirty of them are more than ten pages long, providing ample opportunity for the character of the men and their work to be discerned.

Readings in Linear Programming. By S. Vajda. 99 pp. (Pitman & Sons, England) John Wiley & Sons, Inc., New York, 1958. \$3.00. *Reviewed by George W. Evans II, Stanford Research Institute.*

Dr. S. Vajda uses methods of linear programming to solve twenty-four simple, but representative, problems of the types referred to as transportation, scheduling, inventory, allocation, nutrition, investment, selection, and game. As stated in the preface the book requires only an elementary knowledge for its reading. This does not mean that a deeper mathematical knowledge is not required for an understanding of the subjects covered; however, the reader can follow the methods of solution and heuristic arguments given throughout the book.

For one teaching a course in linear programming, this book will make a nice supplementary problem text. It might also be used for a seminar in which the content of each chapter is supplemented by appropriate mathe-