Book Reviews

Isaac Newton's Papers and Letters on Natural Philosophy and Related Documents. I. Bernard Cohen, Ed., assisted by Robert E. Schofield. Harvard University Press, Cambridge, 1958. xiii + 501 pp. Illus. $12.50.

One of the great intellectual phenomena of the present age is the increasing interest in the writings of Isaac Newton. The cause of this increased interest may be ascribed to two fundamental factors, namely (i) the rapid development of physical sciences and (ii) the demand for the historical antecedent for our present state of scientific progress.

The editor, I. B. Cohen, has done a great service to this intellectual growth of Newtonianism in producing an excellent source book for the layman and, more particularly, for the student of physical sciences, as well as for the historical scholar in science, who at this moment is on the increase, especially in the United States. Because of the many ramifications of Newton's writings and thoughts, this book should have a wide appeal. The preface and introduction are of a general nature in describing the papers and paying tribute to the contributing scholars for their work. Particular notice is given to the Bundy Library and its director, Bern Dibner, who has made publication of this work possible.

The book opens with Newton's 15 papers on physical optics. These papers are reproduced as they were published in the *Transactions of the Royal Society of London* during the period from 1671 to 1676, with a good historical introduction by T. S. Kuhn of the University of California. The paper on *Chemical Philosophy,* with an introduction by Marie Boas, indicates that Newton was more modern in his thoughts than has been recognized. Dr. Boas calls attention to a famous paper of Newton's which really marks him as a chemist of the Robert Boyle type. This rare paper, "Some thoughts about the nature of acids" (*Lexicon Technicum* 2 vols., 1710) is in the Stanford-Newton collection and its reproduction here is indeed appropriate.

For those who wish to know of the transcendental mind of Newton and his philosophy of nature, Perry Miller of Harvard University gives an excellent introduction to the four famous letters from Newton to Richard Bentley and to the Boyle lectures, *Confutation of Atheism.* The final paper on "Fontenelle and Newton" is probably the first authentic biography of Newton. It has an interesting introduction by Charles C. Gillespie of Princeton University. *Halley and The Principia,* with an introduction by Robert E. Schofield of the University of Kansas, was the first book review of Newton's great work.

The appendix, namely the comments on Birch's *History of the Royal Society,* brings to the public's attention further comments upon the papers printed in this volume and should not be overlooked by any student of Newton. The extensive footnotes in all six chapters are important to the continuation of sources for Newton's biography and papers.

The book is well printed, and the photographic reproductions are clear and sharp. Much more could be said of this valuable contribution to Newtonian literature, but space forbids. The beautiful portrait of Newton is reproduced from an original painting by E. Seeman, painted in 1726, and is probably the most authentic picture of Newton in his prime.

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Processed Plant Protein Foodstuffs. Aaron M. Altschul, Ed. Academic Press, New York, 1958. xv + 955 pp. Illus. $26.

This book is much more comprehensive than its title indicates and addresses itself to a far greater circle of scientifically and professionally interested people than those concerned with the manufacture and use of processed plant proteins. In a time of expanding world population and increasing demand for more and better foods and feedstuffs, attention of agronomists, nutritionists, plant breeders, husbandmen, demographers, and technologists is focused on the two-sided problem of how to provide mankind economically with a maximum of animal products by using scientifically grown forage and feedstuffs as well as farm and factory waste products to feed ruminating and nonruminating animals and how to provide an abundance of nutritionally adequate vegetable proteins for the large section of mankind which, for economic or religious reasons, consumes no animal products.

Any other author would have shrunk from the immensely difficult task of answering these crucial questions in one volume, but not Altschul, the scholarly and yet practical-minded principal chemist of the Department of Agriculture's Seed Protein Pioneering Research Laboratory in New Orleans. He realized the great need for such a book, especially in overpopulated and underdeveloped areas of the world where more and more emphasis is being placed on a qualitatively and quantitatively adequate vegetable diet, but he also realized that such a tremendous task requires the combined efforts of competent specialists in the field of animal and human nutrition, botany, biochemistry, microbiology, and food technology. He was successful in bringing together a group of eminent scientists and technologists, and while leaving each contributor utmost freedom to deal with those aspects of the subject matter with which he was most familiar, he himself provided such unity and consistency of treatment that one gets the impression that he is reading a book by a single author.

After a short survey of protein nutrition and plant proteins in general the book deals, in the first section, with the properties of processed plant proteins which affect use of these proteins as animal or human food. Since the great bulk of plant proteins are the meals or cakes of oilseeds, these are given the most exhaustive treatment. Here the chapters "Use of processed plant proteins as human food," by R. F. Dean of Kampala, Uganda, and "Vegetable protein isolates," by M. L. Anson of Cambridge, Mass., make fascinating reading indeed as they afford glimpses into the future in the field of nutrition. "Given Nature's supply of a cheap plant protein of high nutritional value" states Anson, "the technologist and the factory can do many of the manufacturing jobs that have been done, at high costs, only by animals."

The second part of the book deals with the processing of individual plant proteins and is remarkable in its comprehensiveness; it covers not only the numerous oilseeds but also alfalfa and other leaf meals, peas and beans, fermentation and milling by-products, and microbial and algal proteins. In a most interesting chapter—"Cottonseed meal"—Altschul and his co-workers show that the protein of cottonseed is of relatively high nutrient