present book is an attempt to provide the same treatment for the exciting field of biochemical mechanisms. The first third of the book is a summary of fundamental concepts in physical chemistry and physical organic chemistry which are applicable to a discussion of biochemical mechanisms. The last two-thirds of the book offers a brief description of some of the work with organic model systems of enzymatic reactions and of investigations of enzymatic reactions themselves, with emphasis on the former aspect. The reactions discussed include esterification and hydrolysis, elimination reactions, decarboxylations, oxidations, condensations, alkylation reactions, and rearrangement reactions. There are some provocative ideas that will undoubtedly lead to future research. However in its brief compass, this book only whets the appetite for a further look into this area of research that is destined to become of great importance in the future.

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Founder of Modern Atomism

Roger Joseph Boscovich. 1711–1787. Studies of his life and work on the 250th anniversary of his birth. Lancelot Law Whyte, Ed. Allen and Unwin, London, 1961. 230 pp. Illus. 32s.

To most scientists today the name of Roger Joseph Boscovich is wholly unknown, and yet his scientific writings elicited the highest praise from leading men of science, including—among others—Faraday, Clerk Maxwell, J. J. Thomson, Laplace, Ampère, Helmholtz, Hertz, and Lorentz. In 1870 Mendeléeff compared Boscovich to Copernicus and held him to be "the founder of modern atomism," while in 1905 Kelvin described his own position as "Boscovichian pure and simple." Boscovich's contributions to science were many, but the two most outstanding were certainly his theory of "point atoms," in opposition to crude views of atoms as tiny material bodies, and his doctrine of the relativity of space and motion. His exposition of these topics (like so much of what he wrote) has so modern a ring that it is difficult to see how such a man has all but slipped away from us, to be rescued today from partial oblivion only by scholars such as those who have contributed to the volume under review.

Born (in 1711) and brought up in Dubrovnik, Boscovich was educated by the Jesuits and became a member of their society, following a period of training and education that lasted 19 years. Appointed professor at the Collegium Romanum, he began to publish works on mathematics, astronomy, dynamics, and geodesy, and became famous for Latin verses on scientific subjects. On visits to France and England he worked for his order and made contact with foreign scientists; he was elected a fellow of the Royal Society of London on 15 January 1761. The Royal Society invited Boscovich to become a member of the expedition to California in 1769 to observe the transit of Venus, but he was unable to do so. His later life was spent partially on political and diplomatic missions and partially on scientific work, until his death in 1787.

The present book is especially welcome because it is half (pages 1–101) biographical and half (pages 102–212) analytical. In an essay on "Boscovich's atomism," the editor of the volume, Lancelot L. Whyte, analyzes both Boscovich's mathematical theory of atomism and his general philosophy of science (operational and somewhat positivistic). Zeljko Marković contributes a critical analysis of Boscovich's major work, *Philosophiae naturdlis theoria*, fortunately available in an English translation published in 1922. Boscovich's influence on British chemical theory is explored by two American historians of science, L. Pearce Williams and Robert E. Schofield. Zdenek Kopal gives us an estimate of Boscovich's contributions to astronomy and geodesy, including the important experiment he designed "to measure the aberration of starlight by means of a telescope filled with water," so as to discover whether the speed of light is independent of the medium through which it travels. J. F. Scott deals with mathematics at large, and Churchill Eisenhart presents Boscovich's work on the combination of observations, showing him to have been "the first to devise a completely objective procedure for uniquely determining the coefficients of a two-parameter line $y = \alpha + \beta x$ from a set of three or more observational points."

The bibliography of Boscovich's works and of writings on him in English will enable scholars to find out more about him. The volume as a whole should go far toward redressing the neglect into which he has fallen. But as to the question of why Boscovich does not have the reputation today to which he would seem to be entitled—this remains unanswered by the authors of this volume.

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Studies of Random Phenomena

Mathematical Statistics. Samuel S. Wilks. Wiley, New York, 1962. xvi + 644 pp. $15.

Mathematical Statistics. John E. Freund. Prentice-Hall, Englewood Cliffs, N.J., 1962. 260 pp. Illus. $7.50.

Elements of Mathematical Statistics. Howard W. Alexander. Wiley, New York, 1961. xi + 367 pp. Illus. $7.95.

Introduction to Probability and Mathematical Statistics. Z. W. Birnbaum. Harper, New York, 1962. viii + 325 pp. Illus. $6.50.

We are considering four books that are intended for three different levels of readers: Alexander and Freund are both for use at the junior level, Birnbaum at the senior level, and Wilks at the graduate level. Alexander's book is an introduction to probability and mathematical statistics for students who have no prior acquaintance with probability or statistics but who have completed a year of calculus. Freund expects his readers to have had a basic course in calculus, including some elementary material on partial differentiation, multiple integration, and series, but no prior acquaintance with probability or statistics. Birnbaum's book, although intended as an introductory text in probability and mathematical statistics, is for students with a firm grasp of calculus, some knowledge of the theory of matrices and determinants, and familiarity with simple statistical routines. It is not a book from which a beginner can learn the elements of statistical technique. Wilks' book is a graduate-level introduction to mathematical statistics, for readers with good undergraduate backgrounds in mathematics but no prior knowledge of probability or statistics.

Each of these books contains an in-