

Rutherford of Nelson

The Collected Papers of Lord Rutherford of Nelson. vol 1, *New Zealand, Cambridge, Montreal.* Published under the direction of Sir James Chadwick. Interscience (Wiley), New York, 1962. 931 pp. Illus. \$19.50.

In recent years the increasing importance of science in modern life has stimulated interest in its history. There are many signs of this development, which seems to me a very desirable one because it is one way of helping bridge the gap between sciences and humanities about which we hear so much.

In this context there is hardly a more worthy enterprise than publishing the collected papers of great scientists. That there is a sincere desire for such collections is shown by the several which have recently appeared. To stay in the nuclear field only, we have the collected papers of Pierre and Marie Curie, of Frédéric and Irène Joliot-Curie, of Enrico Fermi, and now of Rutherford. The development of nuclear physics in all its intellectual vigor, spirit of adventure, and drama, can be traced through these writings.

Rutherford, so far the greatest experimental physicist of the 20th century, left a large number of writings, often in fairly inaccessible places. They will now be collected into four volumes, of which we have here the first covering the period from 1894 to 1906, inclusive—that is, from New Zealand to Montreal. The second will cover the Manchester period, 1907 to 1919; the third, the Cavendish period, 1919 to 1937; and the fourth will contain miscellaneous items. Director of the enterprise is Sir James Chadwick, one of the greatest pupils of Rutherford and very closely associated with him for many years.

Any student of physics—old, and thus able to remember the heroic times of the early development of nuclear physics, or middle-aged, and thus able to remember the decades from 1930 to 1950, the age of the neutron, or young, for whom all the content of Rutherford's papers is the reflection of a seemingly remote past—will enjoy, perhaps for different reasons, the volumes of the collected papers.

The supplementary historical material furnished in the introductions, written by some of Rutherford's scientific pupils, collaborators, or friends:

Sir E. V. Appleton, Professor H. L. Bronson, and Professor Otto Hahn, adds considerably to the historical information. The living testimonial of spectators of or actors in the drama recaptures some of the spirit of the times and the laboratories in which Rutherford operated.

The typographical presentation is worthy of the contents of the volume. We could hardly give it a higher praise.

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Mucosubstances

Carbohydrates of Living Tissues. M. Stacey and S. A. Barker. Van Nostrand, New York, 1962. xvii + 215 pp. Illus. \$7.50.

The authors of this book are head and lecturer, respectively, in the department of chemistry at the University of Birmingham (England). According to the publisher, the book "is intended for the medical profession, research chemists, and biochemists. In particular, it will help the pathologist to gain an insight into chemical changes that take place in living tissues during diseases, and it will be a valuable textbook for the chemical student."

The book contains an introduction and nine chapters entitled "Glycogen," "Hyaluronic acid," "Chondroitin and chondroitin sulfates A, B, and C," "Heparin and heparitin sulfate," "Miscellaneous polysaccharides," "Milk oligosaccharides," "Blood group polysaccharides," "Mucoproteins in health and disease," and "Lipocarbohydrates." According to the introduction, it is concerned with those carbohydrates that occur in some polymeric union with other large molecules rather than with the "wonderful series of sugars and sugar phosphates constituting one of the body's chain of reactions." How the milk oligosaccharides fit this program remains unexplained, except that they presumably are wonderful. Approximately three-quarters of the material deals with substances containing hexosamine, a field in which the authors have had some personal experience. The book is at its best in the discussion of the structural analysis of the mucopolysaccharides and at its weakest in dealing with biological problems, including the histology of normal tissues and the

discussion of disease states. In general, the book is written with greater care than its predecessor, *Polysaccharides of Microorganisms*, and it covers an area of biochemistry in which no book of similar scope exists today.

The following is a list of some of the errors or questionable statements: (i) at the top of page 50, the treatment with limewater refers to the normal tetrasaccharide and *not* to that produced by leech hyaluronidase; (ii) at the top of page 53, the incorporation of C¹⁴ by extracts of Rous sarcoma was very small and yielded a dialyzable product which the authors believed to be related to hyaluronic acid; (iii) on page 66, first footnote, "ligamentum nuchae connects the apices of the spines from the seventh cervical vertebra to the sacrum." The ligamentum nuchae, a structure most developed in grazing animals, connects the cervical vertebrae to the length of the external occipital crest; (iv) the second footnote of page 66 states that "the aorta joins the left ventricle to the abdominal cavity"; (v) on page 42, the most widely used staining methods for acid polysaccharides and especially for the demonstration of hyaluronic acid, the staining with colloidal iron and with Alcian blue, are not mentioned.

The bibliography is quite extensive, and the book, in general, should prove to be of some value to those unfamiliar with a field of ever-increasing importance and complexity. There is very little in the book that conveys to the reader a feeling for the adventure and the problems inherent in this still unfolding field.

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Pharmaceutical Essays

Readings in Pharmacy. Paul A. Doyle. Interscience (Wiley), New York, 1962. xiv + 429 pp. \$6.95.

This anthology consists of eight sections, about equal in length (from 45 to 70 pages), each containing five to ten essays. The sections are entitled: "Prolegomena to pharmacy" (more accurately, a miscellany), "History of pharmacy," "Some famous names in pharmacy," "Pharmacy around the world," "Drugs versus disease," "Pharmaceuti-