eye appearances, cytology, and chemical composition, and the methods of counting the cells are described. It is of interest to note in passing that the authors do not agree with the statement frequently made that the glucose content is increased consistently in encephalitis lethargica. They confirm the value of diminution of glucose as a sign of acute meningitis, and draw attention to the contrast between this diminution and the presence of a high percentage of blood sugar in such cases. Many will agree with the view expressed that the era of the "reaction" in the cerebro-spinal fluid is giving place to more exact biochemical investigation. At the same time the authors subscribe to the value of the colloidal reactions.

A chapter is devoted to the compression syndrome of Froin, and then individual diseases are considered from the point of view of the changes they produce in the fluid. The last section of the book is concerned with technique. This is a convenient arrangement for the clinician, who is saved the necessity of seeking the significant facts among a mass of technical detail, and increases the value of the book as a work of reference. The volume is completed by a bibliography of modern writings on the cerebro-spinal fluid. This is a book which should find favour with a wide circle of both practitioners and students as an authoritative and practical guide to an important subject.

NOTES ON BOOKS.

A NEW number of *Brain*[4] dated June has just been issued. It contains a series of papers which will appeal to the professed neurologist more than to the general medical reader. The opening paper is by Dr. J. P. Martin, who apologizes for introducing a new name, amyotrophic meningo-myelitis, on the ground that it is reasonably descriptive of the pathological process with which he deals. This is followed by an elaborate study of the histology of juvenile amaurotic idiocy, by Drs. J. G. Greenfield and Gordon Holmes; it is founded upon work done in the pathological laboratory of the National Hospital for the Paralysed and Epileptic, London. Dr. Arthur F. Hurst has a paper on the pathogenesis of subacute combined degeneration of the spinal cord, with special reference to its connexion with Addison's anaemia, achlorhydria, and intestinal infection, a subject of which he gave some account in a lecture published in our issue of January 19th, 1924 (p. 93). Dr. Otto Sittig of Prague contributes a clinical study of sensory Jacksonian fits, among which he distinguishes several classes. Mr. Percy Sargent relates four cases of haemangioma of the pia mater causing compression paraplegia, and adds a report of an example of arterial angioma, a very rare condition.

Sir W. M. BAYLISS had completed the work of revision of the fifth edition of his monograph, *The Nature of Enzyme Action*,[5] before the onset of his fatal illness in 1923. The volume has been passed through the press by his son, but no attempt has been made to add to the work by including the advances made in the subject during the past two years. The fourth edition of this work appeared in 1919, and no extensive alterations have been made in the present volume. The monograph is so well known to students of biochemistry that it is unnecessary to describe it at length. It gives an excellent introduction to a subject of great difficulty, and in particular explains very clearly the mathematical laws that have been established in the case of enzyme action. Sir William Bayliss undoubtedly had a peculiar talent for explaining highly complex phenomena in the simplest manner possible, and in this book he showed this gift to a remarkable degree.

The latest of the series of small volumes on the history of science edited by Dr. Charles Singer is a book written by J. W. N. SULLIVAN entitled *The History of Mathematics in Europe*.[6] It is a very interesting account of the development of this science from its first beginnings in Europe down to the invention of the differential and integral calculus, a story which the unmathematically-minded will enjoy almost as much as the wranglers. Nowadays the mathematician is held in general esteem by his fellows, and he has enjoyed similar respect in the past, a mysterious benevolence which Mr. Sullivan finds difficult to explain. The brief biographies of eminent mathematicians the book contains serve only to increase this esteem, for they reveal the great difficulties the early pioneers had to overcome.

The chief addition made to Mr. BERTRAM KERSHAW'S book *Sewage Purification and Disposal*[7] in its second edition is that it now contains a much fuller account of the activated sludge process of sewage treatment. This and the subject of sludge digestion form the main substance of the ninth chapter. For the benefit of those unfamiliar with the first edition we may add that Mr. Kershaw has been for many years the engineer to the Sewage Disposal Commission, that he has had exceptional opportunities for investigating various sewage treatment processes, and that his volume is recognized to be an authoritative textbook on its subject.

Two French authors, Dr. JACQUES PARISOT and Dr. PIERRE SIMONIN, have written a book[8] on vaccine therapy in which they describe the methods of preparation of vaccines and the different diseases in which vaccine therapy is likely to be beneficial. It is divided into three parts: the first discusses the theoretical basis of vaccine treatment, the second the actual technique of vaccine therapy, and the third the practical applications of vaccine therapy and the results to be expected. It is a sober account of a subject about which extreme views are frequently expressed. On the one hand the authors for the most part avoid extravagant claims for vaccines, and on the other they are not so foolish as to deny the existence of benefits which fail to secure the support of current theories of immunity. It would have been more easy for the reader to find his way about if the book had been provided with an index.

London has been truly as well as wittily called a province of houses. Most of its inhabitants know very little beyond their road from home to business and what bus to take to popular places of amusement; a few, perseveringly walking home by devious paths, or by deliberate exploration, gain an acquaintance with a district, possibly a square mile or so. Then there are the suburbs and semi-suburbs, unattractive to the walker for pleasure, who prefers to take a train to carry him further afield. A map on a scale sufficiently large to be useful fills too large a sheet to be manageable. What is wanted is an atlas giving a section on each page and provided with a good index. Several map-publishing firms have sought to meet this need, and Messrs. John Bartholomew and Son, Ltd. (Geographical Institute, Edinburgh), have just issued a fifth edition (price 6s. net) of their *Handy Reference Atlas of London and Suburbs*. We have tested the index for several rather out-of-the-way streets and have only found it fail once.

[4] London: Macmillan and Co.; New York: The Macmillan Company. (Price 6s.; yearly subscription, 24s. net.)

[5] *The Nature of Enzyme Action.* By Sir W. M. Bayliss, M.A., D.Sc., F.R.S. Fifth edition. Monographs on Biochemistry. London: Longmans, Green and Co. 1925. (Med. 8vo, pp. 200; 9 figures. 9s. net.)

[6] *The History of Mathematics in Europe.* By J. W. N. Sullivan. Chapters in the History of Science—IV. London: H. Milford, Oxford University Press. 1925. (Cr. 8vo, pp. 103; 17 illustrations. 2s. 6d. net.)

[7] *Sewage Purification and Disposal.* By G. Bertram Kershaw, M.Inst.C.E. Second edition. Cambridge Public Health Series. Cambridge: The University Press. 1925. (Demy 8vo, pp. vii + 364; 58 figures. 18s. net.)

[8] *Les Vaccins et la Pratique de la Vaccinothérapie.* Par Jacques Parisot et Pierre Simonin. Paris: A. Maloine et Fils. 1925. (Cr. 8vo, pp. 322; 8 figures, 2 plates. Fr. 16.)

PREPARATIONS AND APPLIANCES.

Jecomalt.

JECOMALT is a preparation of cod-liver oil and malt extract prepared by Messrs. A. Wander, Ltd. (King's Langley, Hertfordshire). The manufacturers state that it contains 30 per cent. of cod-liver oil. Jecomalt is a dry powder free from any odour or taste of cod-liver oil and has a very palatable flavour. Messrs. Wander report extensive laboratory and clinical experiments which seem to show that Jecomalt contains a satisfactory content of vitamins A and B, and the antirachitic factor. Jecomalt appears to be a palatable substitute for cod-liver oil, and the presence of the malt extract increases the nutritive value of the compound and also gives it a high content of the water-soluble vitamin B.

Digitalis Leaf.

"Tabloid" Digitalis Leaf gr. 1 is a preparation by Messrs. Burroughs Wellcome and Co. (Snow Hill Buildings, London, E.C.1) which should prove a great convenience to many practitioners. Tincture of digitalis is the favourite preparation of digitalis in this country, but many Continental and American workers claim that the powdered digitalis leaf is a superior preparation. Unfortunately the activity of powdered digitalis leaf varies with a number of factors, such as the variety of seed and the methods employed in collection and drying. The preparation of Messrs. Burroughs Wellcome and Co. is made from digitalis leaves grown, collected, and dried under standard conditions, and furthermore the finished product is physiologically standardized. Thus the same accuracy of dosage can be attained with these tabloids as with tincture of digitalis, and the tabloids have great advantages in convenience of use and in keeping properties. An estimation of the activity of the preparation by the frog method showed that one tabloid (1 grain) was equivalent in activity to 11 minims of standard tincture of digitalis.