

ferent proportions of chalk water and sea water, and by passing the mixtures through Thanet Sand, the resulting filtrates can be made almost identical with the varying deep-well waters of Essex. It was already known that calcareous waters become softened after passing through certain silicates of alumina with potash, and Dr. Thresh advances the theory that a similar action occurs in the chalk waters of Essex, where they are in contact with, or have passed through, the Thanet Sand formation, the presence of sodium chloride being due to a slight influx of tidal or sea water.

Nearly four-fifths of this volume is devoted to the geological sections, water records, and water analyses of many hundreds of wells in the county; and, following a model index, four folding maps illustrate the distribution in Essex of the alkaline and saline chalk-wells, the chalk water-levels, and the isohyetal distribution of rainfall.

The amount of work involved in the preparation of this memoir must have been very great, but the utility of a treatise of this kind is in direct proportion to the amount of information provided. All those, therefore, who make, or are likely to make, direct use of this series of memoirs cannot but be grateful to the Geological Survey and the authors for the valuable and comprehensive data incorporated within the present volume.

H. L.

OUR BOOKSHELF.

Modern Chemistry and Chemical Industry of Starch and Cellulose. (With Reference to India.) By Prof. T. C. Chaudhuri. Pp. viii + 156. (Calcutta: Butterworth and Co. (India), Ltd.; London: Butterworth and Co., 1918.) Price Rs. 3.12.

IN India, as in other British countries, the war has been the means of directing attention to missed opportunities, to unexplored and unexploited natural resources, and to new possibilities of industrial development.

Prof. Chaudhuri is apparently so much impressed with these matters that he has been unable to confine his attention to the subjects on which he set out to write. He provides his readers with a map of India "showing chief vegetable products [*sic*]," throws in "some thoughts on industrial problem in India," and finally devotes a whole chapter to a review of recent developments in chemical industry in India. In spite of the inclusion of this interesting but irrelevant matter, he contrives to give a useful account of the chemistry of cellulose and starch, and of the great industries which depend on these important raw materials. The author has unfortunately succumbed all too frequently to the temptation to overload his description with unnecessary details, and has thereby been led in some cases into making statements which, to say the least, require qualification. He says, for example, that "there are various kinds of arrowroots—Indian, Brazilian, English, etc. They are all made at the

present day from starch, which is obtained from different sources"; and again: "Arrowroot derives its name from the fact that the juice (cassava-root juice) was used by the West Indians as a poison for the tips of their arrows." There was no need to refer to a comparatively unimportant variety of starch such as arrowroot in a small book of this kind, and the information given is misleading, if not actually inaccurate. T. A. H.

The A B C of Aviation. By Capt. Victor W. Pagé. Pp. 274. (New York: The Norman W. Henley Publishing Co.; London: Crosby Lockwood and Son, 1918.) Price 12s. 6d. net.

"THE A B C of Aviation" justifies its title in that it is a very elementary treatment of the subject of aviation. The writer was chief engineer officer at the Signal Corps Aviation School, Mineola, U.S.A., and a good idea of the contents of the book is obtained by imagining the author to have set down in print what he observed of the aeroplanes and aeroplane parts which have passed through the stores of an aviation school. It is essentially superficial both as to theory and construction, and cannot be recommended as a serious introduction to the study of aerostatics or aerodynamics, or even for constructional design. The diagrams of the flow of air round an aeroplane wing are graphic, but very unreal; they show a large region of stagnant air over half the upper surface, which has no counterpart in the real flow of air over a wing.

The work is profusely illustrated with line drawings dealing chiefly with aviation, but with cursory reference to the balloon and airship, and the most useful feature of the book is its wealth of illustrative detail. Skeleton drawings are given of wings, fuselage, ailerons, elevators, and rudders. Each part of the aeroplane has its separate figure with a simple, clear statement of its name. There are full facilities for finding the disposition of the control surfaces, wires, etc., and the connections of the pilot's control column and rudder bar to the elevators, ailerons, and rudder. The engine controls are not dealt with in such a complete and simple manner, probably because the author has dealt with that branch of aviation in an earlier work.

Organic Chemistry, or Chemistry of the Carbon Compounds. By Victor von Richter. Vol. i., "Chemistry of the Aliphatic Series." Newly translated and revised from the German edition (after Prof. E. F. Smith's third American edition) by Dr. P. E. Spielmann. Second (revised) edition. Pp. xvi + 719. (London: Kegan Paul, Trench, Trübner, and Co., Ltd., 1919.) Price 21s. net.

THE first edition of Dr. Spielmann's translation was reviewed in our issue of March 16, 1916 (vol. xcvi., p. 54), and it is sufficient to say that the opportunity offered by the need for a second edition has been taken to correct certain misprints in formulæ and numbers which previously had escaped notice.