discovery of vitamin D, a milestone in the progress of medical science. Their new work deals with the inhibitory action on vitamin D of oatmeal and wheat germ which appears to be due to the phytic acid in these cereals interfering with the calcium and phosphorus supply in the diet.

Dr. Mellanby insists that liability to infections can be reduced by proper diet. Septic lesions occur in human beings and animals whose food is almost devoid of vitamin A or its precursor, carotene. Vitamin A therapy lessens mortality in puerperal sepsis, in septicæmias and in infections following measles. Pyorrhœa in dogs is caused by a deficiency of vitamin A, and is prevented by this vitamin.

The nerve degeneration, a demyelination of the fibres of the posterior roots, which is responsible for the inco-ordinated movements in rickets, is due to a deficiency of vitamin A in the diet. The similarity of the nerve lesions in beriberi to those produced by lack of vitamin A points to the neuritis in beriberi being caused by deficiency of vitamin A. Deficiency of vitamin B produces prostration which is rapidly cured by administration of vitamin B, whilst the paralysis, slower to yield to treatment, is relieved by vitamin A.

The dietetic errors responsible for the nervous disorders in ergotism, lathyrism and pellagra are probably due to deficiency of vitamin A. Again, cereals interfere with the action. An unknown neurotoxic substance is counteracted by increased vitamin A.

Combined experimental and clinical studies of simple and toxic goitres show that their etiology differs fundamentally. Simple goitre is caused by a deficiency of iodine in the food and is reduced by iodine therapy. In toxic goitre there is local absence of iodine in the thyroid and excess in the blood, due to withdrawal as fast as it is formed of the colloid together with its active principle. In exophthalmic goitre, iodine therapy is only palliative and has its dangers. The iodine withdrawal from the thyroid is initiated by a chemical substance in the anterior part of the pituitary gland.

The value of the book is not only as a record of fruitful research but it is significant also as an emphatic justification of the alliance of research worker and clinician. The practice of medicine tends to remain a religion of traditional beliefs and empirical knowledge passed on from senior to junior physician. A chair of dietetics may be founded in connexion with a large hospital, but if the chair may not be placed by the bedside as well as in the laboratory, of what is its use? It is salutary to remember Pasteur and the indebtedness of medicine to a mere chemist. The book is one to buy and read, and not to borrow.

Short Notices

Handbuch der Experimentalphysik. Herausgegeben von W. Wien und F. Harms. Unter Mitarbeit von H. Lenz. Band 12 : *Elektrochemie.* Teil 2. Herausgegeben von K. Fajans und E. Schwartz. *Elektromotorische Kräfte*, von Prof. Dr. C. Drucker und Prof. Dr. C. Tubandt ; *Polarisationserscheinungen*, von Prof. Dr. R. Kremann ; *Elektrochemie der Phasengrenzen*, von Prof. Dr. E. Lange und Dr. F. O. Koenig. Pp. xix+483. (Leipzig : Akademische Verlagsgesellschaft m.b.H., 1933.) 40 gold marks.

THIS volume, the second part of the section on electrochemistry in the Wien-Harms "Handbook", well maintains the standard of thoroughness of earlier volumes. Drucker writes competently on electromotive force in cells with liquid electrolytes, without, however, making much attempt to describe the atomic or electrical mechanisms involved, except in the liquid portion of the system, or the relationship between the affinity of the metals for electrons and their electromotive powers. The classical electrochemistry of all the usual types of cells is well and clearly treated. Tubandt contributes a short section on cells with solid electrolytes.

Kremann gives a valuable and very well documented account of polarisation phenomena, including, of course, passivity and overpotential ; in this section, theory, as is perhaps inevitable when dealing with such a quantity of unruly experimental data which will not enter the harmonious thermodynamic edifice devised to house the more docile phenomena of reversible cells, is weaker than the description of experimental results.

The last two hundred pages are devoted more specifically to phase boundary potentials. Lange deals thoroughly with the methods of measuring Volta potentials, between liquids and air as well as between two metals, but is not up-to-date in the description of the influence of surface films on these potentials. The Peltier effect and dropping mercury electrodes are well treated, the former especially thoroughly. There is one real gem in this volume : Koenig's treatment of the electrocapillary curve on pp. 376–416. This is based on a partly new and original thermodynamic treatment which avoids the improbabilities of earlier treatments, and is very ably worked out and applied to all the more important experimental observations ; the chapter closes with a good account of the molecular theory of the double layer. A somewhat brief but very clear account of electrokinetic phenomena is also contributed by the same author, whose critical handling of these two difficult subjects is in many respects original and is probably unsurpassed anywhere in scientific literature. N. K. A.