

## Short Notices

*Structural Design in Steel.* By Prof. Thomas Clark Shedd. Pp. ix+560. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1934.) 25s. net.

THE professor of structural engineering in the University of Illinois, recognising the impossibility of adequately covering the whole field of structural design in a single volume, has confined his attention to the fundamental principles of steel structures, and has produced an eminently practical manual, interspersed with numerous worked-out examples of calculations, which will be of considerable assistance to the draughtsman, the designing engineer and the student.

Commencing with an introductory chapter of a general character, the book goes on to discuss structural types and framework, the design of beams and girders, tension and compression members, and connexions. Then follow two chapters dealing with the design of structures as a whole: one on buildings, primarily of the industrial type, and the other on bridges, both roadway and railway. Both chapters include detailed sets of illustrative calculations of a practical character. Since fusion welding is now widely used as a means of jointing, and is not so adequately standardised as the older forms, the author has discussed the subject in a special chapter. Three appendixes, covering general specifications in design, based on standard American practice, form a suitable conclusion to the volume, which is clearly and excellently produced, particularly as regards the numerous diagrams and sheet calculations. The illustrations include a number of photographic views of structures in the United States. B. C.

*Food and Health.* By Prof. Henry C. Sherman. Pp. x+296. (New York: The Macmillan Co., 1934.) 10s. 6d. net.

PROF. H. C. SHERMAN, the author of several scientific books on food and nutrition, has now written a short popular account. A clear description of the caloric requirements of adults and children is summarised in a useful table. Regarding the daily amount of protein, about which there has been so much controversy, Sherman concludes, from direct experimental data, that 44 gm. a day suffices for an adult; for children relatively more, at the figure of 10-15 per cent of the calories. The nutritional responsibilities assigned to the proteins belong rather to the mineral elements and vitamins. The chapters on the vitamins are short. The optimal amounts of each vitamin are four or five times those found as minimal. There are tables, needing corrections, showing the distribution of the vitamins in foods.

A chief feature of the book is the discussion of the supply of mineral salts. Every human being, says Sherman, is born calcium-poor, but iron-rich. The intake of calcium and also of phosphorus must therefore be relatively greater than that of other body-

building foods; the daily amounts are given. Attention to mineral salts and vitamins will more surely lead to buoyant as distinguished from merely passable health. A long list of diets shows how the low protein consumption with high calcium and phosphorus (mainly from milk, of which a quart a day is recommended for children) and ample vitamins can be secured. The book merits every attention.

*The Human Gyroscope: a Consideration of the Gyroscopic Rotation of Earth as Mechanism of the Evolution of Terrestrial Living Forms: Explaining the Phenomenon of Sex: its Origin and Development and its Significance in the Evolutionary Process.* By Arabella Kenealy. Pp. v+313+16 plates. (London: John Bale, Sons and Danielsson, Ltd., 1934.) 12s. 6d. net.

MISS KENEALY attempts to show that Newton and not Einstein is right; that Einstein's theory contains no creative principle. Her predominant idea is that the development of biologic forms is due to the gyroscopic influence of rotation, acting by way of what she terms the "Great Potter's Wheel of Evolution". She maintains her thesis with a bewildering mass of evidence from many sources, but few of the conclusions she arrives at by skilful argument will bear critical examination. While respecting her convictions and impressed by the advocacy of her case, most scientific readers will remain unconvinced.

*Aircraft: Progress and Development.* By Capt. P. H. Sumner. Pp. xiv+295. (London: Crosby Lockwood and Son, 1935.) 25s. net.

THIS volume claims to be "a world picture of progress in Aviation". If the author had confined himself to that conception it would have been an interesting book of the historical record type, that should find a place in every library collection directed toward that end. The illustrations and their descriptive matter are exceptionally complete, and must be the result of a very considerable labour in collecting and collating them. The pictures themselves are discreetly chosen and well reproduced. The book fails badly when it attempts to give scientific and technical explanations in too small a compass. Compression of technical statements has led the author into both ambiguities and errors.

*Geschichte der physiologischen Chemie.* Von Dr. Fritz Lieben. Pp. ix+743. (Leipzig und Wien: Franz Deuticke, 1935.) 20 gold marks.

THIS is a somewhat lengthy historical account of the development of the subject between, or common to, chemistry and physiology, which is now called biochemistry. The story is told at first in connexion with individuals; later it has relation to function and to individual chemical groups. Few will find the leisure to read so long a work, but the author and subject indexes make reference to particular problems easy.