

is further indicated by the large proportion of the genera that are also found in Asia—*e.g.* 47 per cent. of the genera of Leguminosæ occur in Ceylon, 42 per cent. of Gramineæ, 30 per cent. of Rubiaceæ. The only endemic genus, on the other hand, is Neobraccia, in Apocynaceæ. Taking the families that show genera confined to northern or to tropical America as being the oldest in those regions, one finds them well represented in the Bahamas. Of twenty-nine that have at least twenty genera in each confined to the regions mentioned, all are represented in the Bahamas but Ericaceæ, Gesneraceæ, and Saxifragaceæ. Moreover, they are represented by genera in roughly proportional numbers, the largest ten by 189 genera, the next ten by 85, the next by 42, and so on. Proportional representation like this is hard to conceive if there was never any land connection.

*The Gyroscopic Compass: A Non-Mathematical Treatment.* By T. W. Chalmers. (The Engineer Series.) Pp. x+167. (London: Constable and Co., Ltd., 1920.) 11s. net.

THE writer of this review read and admired many of the chapters composing this book as they appeared in the *Engineer* during the opening months of last year. The treatment is entirely non-mathematical in the ordinary sense of the term, and the author is to be congratulated on having produced a book which will appeal to all who are interested in gyroscopic action. Moreover, it will be of use to engineers and navigating officers who are responsible for the care of working instruments.

The book begins with an account of elementary gyroscopic phenomena, and this is followed by a clear explanation of the fundamental action of the compass, which, of course, depends on the rotation of the earth, and in no way on the earth's magnetism. The methods of damping out vibrations employed in the various types of instrument in use—the latitude error, north steaming error, the ballistic error, the quadrantal error and its elimination—receive excellent treatment in subsequent chapters. The explanations of the fundamental dynamics involved are clear and sound.

Having explained fully the principles of a gyroscopic compass, the author describes in detail the Anschütz, Sperry, and Brown compasses. The last chapter of the book contains an account of the Anschütz 1912 compass. This sequence is not correct, for in two respects that instrument is a pioneer one.

We have no hesitation in recommending this book.

J. G. G.

*The Child Welfare Movement.* By Dr. Janet E. Lane-Clayton. Pp. xi+341. (London: G. Bell and Sons, Ltd., 1920.) 7s. net.

WITH a birth-rate nearly as low as it has ever been, and an infantile mortality which is capable of reduction by 30 or 40 per mille, the subject of the preservation of child life has

assumed great importance. Dr. Lane-Clayton's book is, therefore, most opportune, and she has compiled a summary of the child-welfare movement which for completeness it would be difficult to equal. All aspects seem to have been dealt with, and little has been omitted. This very completeness, however, entails the inclusion of a mass of detail which tends to make the book dull reading.

The author rightly emphasises the importance of the breast-feeding of infants, and discusses in an adequate manner artificial substitutes. We are inclined to think that she deprecates unduly the value of milk as a food for older children. While it is true that up to a point other and cheaper foods may take its place, the valuable vitamine content of milk renders it a food second to none, particularly in these days when the cheaper vegetable margarines, which contain no fat-soluble A, have to take the place of butter. Moreover, the milch cow gives a much higher return for the energy-value of her food than does the beef steer.

We also think that Dr. Lane-Clayton unduly minimises the incidence and effects of venereal diseases on child life, and we have failed to find any reference to the effects of employment and factory life on the expectant mother.

Appendices occupy nearly 100 pages, and include specimens of leaflets, recording cards, and summaries of various Acts, Orders, circulars, and schemes connected with child welfare.

*Tuberculosis and Public Health.* By Dr. H. H. Thomson. Pp. xi+104. (London: Longmans, Green, and Co., 1920.) 5s. net.

THIS little book gives a concise summary of the problem of tuberculosis in relation to public health. While written primarily for the medical profession, the text for the most part is non-technical, and it should prove of value to non-medical readers who are interested in, or may have to deal with, tuberculosis. The matter is up-to-date; for instance, Brownlee's researches on the different types of pulmonary tuberculosis existing in the British Isles are referred to.

The author rightly points out the difference in infectivity of the open and closed classes of cases, an appreciation of which simplifies the measures to be taken to prevent the spread of infection. The schemes of treatment and of the care and control of patients outlined are very much to the point, and constitute an adequate summary on these important subjects. In dealing with diagnosis, a number of useful hints are given on the examination of the chest, the tuberculin reaction, and other aids.

When discussing the tubercle bacillus the author suggests that it may have a cycle of existence outside the body, and lays stress on the possible spread of tuberculosis among cattle by the fouling of pasture, etc., with the infected excreta of tuberculous beasts.

R. T. H.