

Still, the author gives an account of a few of the less well-known methods in use by research workers. Otherwise in his treatment of the subject Mr. Jerram deviates but slightly from the ordinary lines, which are not capable of much variation. An interesting chapter on "The Measurement of Forests" is contributed by Mr. R. Bourne, late lecturer in forestry at Oxford University. The book may be recommended as a useful text-book.

GEOLOGY

Geology of London and South-East England

By G. M. Davies. Pp. viii + 198 + 4 plates. (London: Thomas Murby & Co., 1939.) 7s. 6d. net.

IN a recent broadcast on "Science in Wartime", Sir Albert Seward, then president of the British Association, commended to his listeners the interest and satisfaction that are to be gained from dipping into the history of past ages on the earth, and he chose as one of his examples the study of the London Clay. For those who, for cultural or utilitarian ends, would like to follow up this suggestion in the still rather heavily populated area of south-eastern England (and are prepared to take the risk of being arrested as spies in the course of their field studies), the book under notice appears at the opportune moment.

Instead of adopting the usual historical method of treatment—from ancient to modern—the author reverses the process in the belief that people will find it easier to work back from the known present to the unknown past. His treatment therefore opens with "made ground" and recent deposits, and passes on to the records of early man, ancient river deposits, the relics of the Ice Age, and so to the Tertiary rocks of the London and Hampshire Basins, the Chalk, and finally the pre-Chalk formations that are included within the area from the Fens to Oxford.

Other interesting subjects treated in a simple way are the Palaeozoic floor under the east of England, the water-supply, the building-stones of London, and the development of scenery. Abundant photographs, text-figures of characteristic fossils, geological sections, sketch-maps and judiciously selected references to relevant publications (for those who wish to pursue the subject further) enhance the usefulness of the book.

Die Entwicklung der Kontinente und ihrer Lebewelt. Ein Beitrag zur vergleichenden Erdgeschichte. Von Prof. Dr. Theodor Arldt. Zweite, vollständig neu bearbeitete und erweiterte Auflage. Band 1. Pp. xviii + 449–1005. (Berlin: Gebrüder Borntraeger, 1938.) 44 gold marks.

THE first edition of Prof. Arldt's great work appeared in 1907. Since that time, great advances have been made in palaeogeography, biogeography and related sciences. Further, a complete new theory of the origin of continents and oceans has burst upon the geological world. This second edition is therefore a greatly expanded one, the first volume of it alone amounting to a thousand pages.

The first part of this volume, issued in 1936, was noticed in *NATURE* of May 29, 1937, pp. 902–3. In it the question of the permanence of the earth's major features was raised, and the answer is not yet forthcoming even in the thousand pages of the present volume. It seems likely, however, that land-connections between continental masses will be approved, but for the final answer we must await the second volume, which will contain the geological and cosmological findings.

In these thousand pages, then, we have a very detailed examination of the distribution of present and past life. So far as this colossal mass of information can be handled, it is summarized in a series of tables and charts. The last thirty pages of the volume deal with a few general topics, such as the geological distribution, the regions and the origin of life. By the ordinary geologist, who appreciates at least the quantity of the evidence produced by Arldt, the geological verdict will be awaited with interest.

MATHEMATICS AND ASTRONOMY

Modern Machine Calculation with the Facit Calculating Machine Model Lx

By H. Sabielny. Translated and revised by Dr. L. J. Comrie and Dr. H. O. Hartley. Pp. 74. (London: The Scientific Computing Service, Ltd., 1939.) 5s.

APART from the many excellent brochures issued by the leading makers of modern calculating machines, there is very little scientific literature on the subject. This is somewhat strange in view of the increasing use made of these machines in present-day business houses, coupled with the fact that probably the first adding machine was exhibited so early as 1884. The present manual will therefore be welcomed by all who wish to know something authentic about modern machine calculation. Mr. Sabielny's original text was published by Aktiebolaget Facit, Atvidaberg, Sweden, by whom the Scientific Computing Service, Ltd., under the direction of Dr. L. J. Comrie, was requested to prepare an edition suitable for use in English-speaking countries. Whilst the text deals particularly with the Facit Model Lx, much of it is applicable generally to other machines of similar type.

There are four parts dealing respectively with fundamental principles, examples of practical calculations, British currency and tables. The translators have followed the original text on the whole, although certain sections have had to be either cut out or modified. They have also incorporated some important new matter. Part 2, for example, on British currency, weights and measures, is new, whilst the very practical sections on 'short-cutting' in multiplication and division have been extended and a new method given for carrying out the rule of three with one operation without any embarrassment from complements.

The manual has been excellently prepared by the translators and should provide a very practical and scientific guide to the use of the modern calculating machine.

F. G. W. B.