

wiched between local descriptions, thus "Aqueducts" are treated between "Storm Waters" and "The Water Supply of New York"; "Watersheds and Water-partings," with a long description and full-page illustration of the Rhone Glacier, appears between engineering details of the water-works of Glasgow and of Liverpool. And between "The Birmingham Water Supply" and "Proposals to supply London from Wales" there is an account of the Nile storage at "Assouan" in a paragraph devoted to "Other Famous Dams."

Apart from the absence of arrangement, the book fails in saying next to nothing of the rainfall of the country and its fluctuations, data for which in immense abundance are available; nothing of the system of legislation by which water supplies are allocated, save for scraps in relation to individual schemes. An appendix gives an account of the theory of cyclones put forward by Prof. Bjerknes; but there is nothing as to the distribution of rainfall in the actual cyclones which traverse the British Isles.

As a scrap-book of useful and often entertaining information on the supply of water to modern London and ancient Jerusalem the book will give pleasure to many readers, and the facts as to other cities, ancient and modern, are accurate wherever we have tested them, though not always up to date. Our sole complaint is that a scrap-book should be put forward as an educational work, for we hold that continuity of plan, clearness of arrangement, and simplicity of statement are essential for any such book, and these we do not find. We repeat that large parts of the book are excellent, and every Londoner would do well to read those which refer to the Metropolitan Water Board.

H. R. M.

Étude géométrique des transformations birationnelles et des courbes planes. Par Henri Malet. Pp. viii + 261. (Paris: Gauthier-Villars et Cie, 1921.) 32 francs net.

ORTHODOX elementary geometry deals principally with the metrical properties of space, based on Euclid's axioms. In the modern developments of geometry the metrical properties are a secondary consideration. The study of ordered aggregates of spatial elements, such as points, lines and planes, became a powerful weapon in the hands of the geometers of the last few generations, and one of the most useful forms of this study is the method of transformations and correspondences. M. Malet sets himself the task of presenting the fundamental ideas of correspondences, leading up to the generalised type which forms the title of his book. As is natural he offers first a careful study of homographic correspondences of points on straight lines, then the *method* of projection, coming finally to birational transformations. His method is purely geometrical.

The theory is applied to the type of plane curves called algebraic, defined by the author in the sense that one and only one algebraic curve can be made to pass through a number of given points in a plane, these points being independent: he examines carefully the meaning of independence.

Attention is directed to the remarkable fact that many

of the most important contributions to modern geometry have been made by Frenchmen; M. Malet claims that this is due to "ces qualités de clarté et de précision qui furent toujours l'appanage de notre race."

S. B.

A Manual of Indian Timbers: An Account of the Growth, Distribution, and Uses of the Trees and Shrubs of India and Ceylon, with Descriptions of their Wood-Structure. By J. S. Gamble. Reprint of second edition with some additions and corrections. Pp. xxvi + 868 + 20 plates. (London: Sampson Low, Marston and Co., Ltd., 1922.) 3l. 3s. net.

THE Empire Timber Exhibition, held in London in July 1920, was remarkable for the number of beautiful woods which were displayed in the India section. It was difficult to understand why most of these valuable timbers were either unknown or not appreciated in the European market. Most people in this country believed that teak was the only timber of importance produced in India, and were surprised to see the variety of species that were made up into furniture, panelling, parquet flooring, and a host of miscellaneous articles, ranging from fishing-rods to scientific instruments. The cause of the neglect of Indian woods may be put down to lack of business methods on the part of the Government, which controlled the great bulk of the forests. This supineness is now a matter of the past, and efficient measures have been taken to make known in England the wealth of timbers available.¹

The publication of a reprint of Gamble's "Manual of Indian Timbers," which has been for many years out of print, is a step in the right direction. To those who are unacquainted with this splendid book, we may direct attention to the accurate mass of information which it contains on the timbers and forest trees of India, Burma, and Ceylon. About 1500 species are described; and their uses and qualities are pointed out.

A Guide to the Identification of our more Useful Timbers: Being a Manual for the Use of Students of Forestry. By Herbert Stone. Pp. viii + 52 + 3 plates. (Cambridge: At the University Press, 1920.) Price 7s. 6d. net.

THE distinctive characters of the commoner kinds of timber are well described in this brief manual, which should prove useful in teaching students. Thirty-one broad-leaved trees and ten conifers are included, all of which, except four, teak and three kinds of mahogany, are cultivated in this country. It is assumed that the student has sufficient knowledge of the elementary structure of wood to follow the descriptions. There are three plates. Certain slight errors in nomenclature should be corrected in the next edition. The term "deciduous oaks" is chosen to designate the two British species. This is not a distinctive name, as it does not include in this manual the American white oak and red oak, which are equally deciduous. *Ulmus effusa* (p. 18) is not a "bad" species, as alleged, but is a name applied to a distinct elm, not native to Britain, which is perhaps more correctly called by the prior name of *U. pedunculata*.

¹ See "Indian Trade Enquiry Reports on Timber and Paper Materials," published in 1921 by the Imperial Institute, where possible uses in this country for thirteen different woods, other than teak, are suggested.