and America are described and discussed, while the section dealing with adsorption has been extended so as to include an account of recent work in this field.

A description is also given of several new practical methods. Amongst these may be mentioned Morgan's method for determining the molecular weights of liquids from the weight of falling drops, and the methods suggested by Smith and Menzies for the determination of the boiling points and vapour pressures of substances.

From the examples which have been given, it will be evident that, with one or two exceptions, the book has been brought thoroughly up to date, and can be confidently recommended to anyone desirous of having a clear and comprehensive account of modern views relating to such subjects as the properties of atoms and molecules, and the general properties of gases, liquids, and solids.

J. K. W.

OPTICS IN EUCLID'S TIME.

L'Ottica di Euclide. By Prof. G. Ovio. ("Manuali Hoepli.") Pp. xx+415. (Milano: Ulrico Hoepli, 1918.) Price 7.50 lire.

IT need scarcely be pointed out here that the greater portion of what we now call "optics," dealing as it does with applications of the laws of refraction, was unknown in the days of the Greek geometer. In this small volume Prof. Giuseppe Ovio, of Genoa, has condensed an exposition of the contents of two volumes known as "Optics" and "Catoptrics," of which the first is believed certainly to be due to Euclid, while his authorship of the second is regarded as rather more doubtful. In preparing this book Prof. Ovio has mainly based his work on the editions of Pena, Danti, and Heiberg, but has also consulted those of Gregory, Zamberto, and Freart.

"Optics Properly So-called," which forms the title of the first portion, is practically equivalent to our perspective geometry. It deals with the apparent dimensions of objects seen at different distances and in different directions. It thus consists of a collection of propositions really purely geometrical in character. For example, one proposition proves that an eye situated near a sphere sees less of it than one further off, but the visible portion appears larger. There are some theorems, on the other hand, of which the purport and meaning are rather vague, and Prof. Ovio's comments on these will be found useful. "Catoptrics" deals with reflection at curved surfaces. The propositions include proofs that a plane mirror produces an inverted image of the same size as the object, that rays after reflection at a concave surface sometimes converge and at other times diverge, and a large number of other properties, of which these may be regarded as typical representatives. According to Euclid, visual rays emanated from the eye and went to the objects.

Now that the younger generation no longer acquires its geometrical ideas from Euclid's elements, an interesting variation on our over-stereotyped school curricula might very well be introduced by occasionally teaching the subject-matter of this volume. Many of the proofs afford quite interesting lessons in deductive methods, and could very well be accompanied by excellent exercises in constructive geometry. But, unfortunately, the subject in its present form does not fall within the syllabus of school examinations.

G. H. B.

OUR BOOKSHELF.

Descriptive Catalogue of the British Scientific Products Exhibition, with Articles on Recent Developments. Pp. xxiv+268. (London, 199 Piccadilly: British Science Guild, 1918.) Price 2*s.* 6*d.* net.

THE record of industrial achievement during the period of the war shown at the recent British Scientific Products Exhibition organised by the British Science Guild was much enhanced by the publication of a comprehensive descriptive catalogue. Whilst the contained details of the exhibits and their technical applications added interest to their examination and form a valuable record for reference, the inclusion of a series of articles on recent industrial developments should do much to drive home and explain what has been accomplished during the past four years by the successful co-operation of science and industry, and what is needed for that fuller and more permanent effort which is required to secure industrial progress and efficiency. The story has been told in many forms, but every repetition that can extend an appreciation of the problem is to be welcomed. The catalogue of exhibits contains concrete examples of recent developments which form the basis for the story, and their direct association with a series of twenty concise and well-written articles by authorities whose names are a guarantee of first-hand knowledge provides a helpful correlation between the results obtained in works and laboratories and the objects and methods which have secured their realisation.

Mathematical Papers for Admission into the Royal Military Academy and the Royal Military College, and Papers in Elementary Engineering for Naval Cadetships, November, 1917, and March, 1918. Pp. 40. *Elementary Engineering Papers for Naval Cadetships (Special Entry) for the Years 1913–1917.* Pp. 33. Both edited by R. M. Milne. (London: Macmillan and Co., Ltd., 1918.) Price of each 1*s.* 3*d.* net.

A VOLUME of mathematical papers set to candidates for admission to the Military Academy and College was reviewed in a recent issue of NATURE. The first of the present publications is a further set of such papers. The other book contains the papers in elementary engineering set at recent examinations for Naval Cadetships. The questions in this collection cover the ground of the elementary theory of steam- and gas-engines, link motions, lathes, etc., and also presuppose some knowledge of the theory of hydrostatics, heat, and

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