

expected considering the fluctuations in price which have occurred during the last few months. The titles of one or two important works do not appear, but inquiry elicits the information that they are out of print, and thus do not come within the scope of the book. What at first appears to be an omission of the valuable Reports on the Progress of Applied Chemistry, published by the Society of Chemical Industry, is evidently due to the decision that the books included should be obtainable through booksellers in the usual way. The reason for the inclusion of a work on "Sea-water Distillation" under the heading of General Chemistry is not quite easily explained, but it is probably due to a mechanical error in sorting. Such slight blemishes do not, however, detract from the value of the book, and considering the amount of tedious work which must have been incurred in its compilation, it is a matter for congratulation that so few occur.

Booksellers and librarians would be well advised to include a copy amongst their works of everyday reference, as they will find that it will save them a great deal of unnecessary labour.

The volume is well printed, and the binding should stand considerable wear and tear. An unusual feature is that the end papers are wholly reinforced with a fine gauze or "mull," in a manner which should tend to strengthen the binding very materially.

The British Science Guild has produced a notable volume, and it is much to be hoped that its sale will justify the expressed desire to issue an annual edition.

F. W. CLIFFORD.

The Statecraft of Ancient Greece.

The Works of Aristotle. Translated into English under the editorship of W. D. Ross. Vol. 10, *Politica*, by B. Jowett; *Oeconomica*, by E. S. Forster; *Atheniensium Respublica*, by Sir Frederic G. Kenyon. (Unpaged.) (Oxford: At the Clarendon Press, 1921.) 15s. net.

THE new volume of the Oxford Aristotle will probably appeal to a wider range of readers than any of the others, because it deals with statecraft, theories of government, economics, and constitutions. The "Politics" is no doubt the best known of Aristotle's works outside the body of students who have had to read the treatises for university courses. This is in large part due to the splendid translation made by Jowett in 1885. It is this translation which is reprinted in the present volume, revised and brought up to date by Mr. W. D. Ross, the editor of the series. With it is included Mr. E. S. Forster's transla-

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tion of "Oeconomica," an Aristotelian work which is not by Aristotle, but attributed by the translator to a disciple who lived earlier than the second century B.C. The third work in the volume is the treatise on the constitution of Athens, discovered in a papyrus in 1891. The translation is that originally made by Sir Frederic G. Kenyon, but now revised by him and in part reconstructed from fragments since discovered.

When we read Aristotle we have to keep reminding ourselves that we live in a different world, for he seems to be discussing always our own modern problems. It is difficult to realise that questions so vital to us were commonplace in the ancient world, and we are often tempted to exclaim with the Hebrew preacher, "There is nothing new under the sun." It must be rather a shock to those who have heard of Thales of Miletus as the first of the great line of Ionian natural philosophers to be told that he once enriched himself by cornering the olive presses. Certainly the moral Aristotle draws is designed to show that the philosopher despises wealth, for he has the opportunity of acquiring great riches if he chooses to use his wisdom for a worldly end. The other story of the man of Sicily, presumably a banker, who used the money deposited with him to buy up the iron-ore, and made a profit for himself of more than 200 per cent., has a still more curious moral. The man was expelled from Syracuse as a dangerous person who might get too rich, but he was allowed to take his money with him! Aristotle's moral is that the State would do well to take example from him. Even "the Great Illusion" was exposed in the ancient world, and produced, in one instance at least, more effect than Mr. Norman Angell has produced in our generation. We are told that "Eubulus, when Autophradates was going to besiege Atarneus, told him to consider how long the operation would take, and then reckon up the cost which would be incurred in the time. 'For,' said he, 'I am willing for a smaller sum than that to leave Atarneus at once.' These words of Eubulus made an impression on Autophradates, and he desisted from the siege."

H. W. C.

Our Bookshelf.

The Outline of Science: A Plain Story Simply Told. Edited by Prof. J. Arthur Thomson. Pp. ii + 40. (London: G. Newnes, Ltd., n.d.) 1s. 2d. net.

FROM its title this work (which is to be completed in about twenty parts) claims no more than to give an outline of science. Astronomy occupies

some twenty-four pages of part 1; it is necessarily treated very summarily, and much of the information is given by diagrams. This makes it essential that these should be accurate and self-explanatory. Fig. 2 is open to the criticism that it fails to show the great differences between the interplanetary spaces; the orbits are represented as equidistant, and Saturn's period is given as twelve years. Fig. 11 quite fails to show the sun's pre-eminence compared with the planets. The letter-press under the portrait of Prof. J. C. Adams is disfigured by the substitution of Neptune for Uranus as the perturbed planet. Fig. 6 (the total solar eclipse of 1919) is described as being taken at Greenwich, instead of Sobral, Brazil. On p. 23 it is stated that "mutual friction raises at least a large part of them (the meteors forming a comet) to white heat." This is quite improbable, since the meteors are travelling on parallel paths with practically equal velocities. In the large diagram illustrating the spectroscope the luminous body appears to be a star, since the sky is dark and other stars are shown. However, no object except the sun could throw a large, bright spectrum on a screen, and in this case a slit (absent from diagram) would be essential for showing the Fraunhofer lines.

There are several excellent reproductions of solar, lunar, planetary, and nebular photographs, and a bold coloured drawing of a gigantic solar prominence. The descriptive matter is attractively written, and includes a short exposition of the theory of giant and dwarf stars, and of the Moulton-Chamberlin planetesimal theory, which, however, postulated the approach of but one star to our system, not one for each planet, which latter would be utterly improbable.

A. C. D. CROMMELIN.

Die Ursachen der diluvialen Aufschotterung und Erosion. By W. Soergel. Pp. v+74. (Berlin: Gebrüder Borntraeger, 1921.) 18 marks.

IN translating the title of this suggestive work we are troubled by the term "diluvial," which has, we fear, become fixed in German terminology; also by the fact that we have no equivalent for the expressive word "Aufschotterung." The author refers the formation of the true Schotter, the boulder-beds, to epochs of cold semi-arid climate, when frost acted on a surface free from vegetation. Weathering was then mechanical. Valley-erosion, on the other hand, indicates a humid climate, when vegetation protected the rocks from block-denudation, when weathering was chemical, and when the free flow of water worked havoc with the preceding products of "Aufschotterung." Herr Soergel shows how even so large a cause as upheaval or subsidence of the land is unlikely to promote regional erosion or aggradation in a network of valleys running in different directions. The tilting or buckling of the land-surface in such a case leads to changes that vary from one district to another. Hence the author sees in the regional features of "diluvial" times in Europe evidence of repeated

climatic change, and he finds support in the animal remains that are associated with deposits formed respectively in epochs of erosion and glacial aggradation. The "monoglacial" view is thus rejected; boulder-beds connected with epochs of erosion are merely local and do not indicate a continuity of the cold conditions that produced the great "Aufschotterungen."

G. A. J. C.

Flora of the Presidency of Madras. By J. S. Gamble. Part 4, *Rubiaceae to Ebenaceae*. Pp. 579-768. (London: Adlard and Son and West Newman, Ltd., 1921.) 10s. net.

THE present instalment of this handy little flora is mainly occupied with the two large families Rubiaceae and Compositae, the former including representatives of forty-five genera, and the latter of sixty-two. The Rubiaceae include plants of widely varying habit; small-flowered, creeping, erect, or climbing herbs recall the development of the family in temperate climates, and shrubs or trees represent the tropical development. The latter include handsome flowered species, as in the *Ixoras* and *Gardenias*. *Hydrophylax maritima*, a succulent creeping herb, is a useful sand-binding plant on the dunes of the east and west coasts. Many genera familiar in temperate regions occur among the Compositae in the hill districts; the Dandelion is an introduced weed both in the Nilgiris and the Pulney Hills. The nineteen species of the genus *Senecio* include, besides herbs of our ragwort type, several shrubby climbers; and *Vernonia*, with twenty-nine species, includes herbs, shrubs, and small trees.

In contrast with the rich development of the Ericaceae and Primulaceae in Northern India the Madras Presidency is very poorly represented. Ericaceae comprise only one *Gaultheria* and one *Rhododendron*, and Primulaceae six species in all, one of which, *Anagallis arvensis*, the pimpernel, occurs only in the blue-flowered form. The genus *Primula* is absent; but there are six genera of the allied family, Myrsinaceae, one of which, *Aegiceras*, is a constituent of the mangrove forests of the sea-coasts and tidal creeks.

A Handbook of Laboratory Glass-blowing. By B. D. Bolas. Pp. vii+106. (London: George Routledge and Sons, Ltd.; New York: E. P. Dutton and Co., 1921.) 3s. 6d. net.

ALTHOUGH it is without doubt desirable to have a professional glass-blower attached to a physical or chemical laboratory, a knowledge of simple glass-blowing is essential to students generally. While Mr. Bolas carries the subject rather further than the simple repair of apparatus, for he describes also the construction of glass laboratory ware, he gives clear and concise instructions for the manipulation of glass which should prove of considerable service to laboratory workers. Most of the operations are illustrated by clear line drawings of the various stages through which the material passes before it assumes its final form.