

resources, has modified the broad outlines of the *Challenger* results. It is of fundamental importance to the history of oceanography that the record of these early investigations should be made accessible once for all by the best authorities; those authorities, to wit, to whom the researches themselves were originally due. This has, of course, been done in great measure in the published narrative and reports of the *Challenger* Expedition; but, as in all other undertakings of the same order of magnitude, there is a sort of aftermath of result, the fruit of incidental inquiries into special methods or of special subsequent opportunities arising from the original main enterprise. These collateral results are necessary to complete the historic picture, both of the work and of the men who carried it out.

It is, therefore, a matter for much satisfaction that this has now been done, in so far as the physical and chemical work is concerned, by the chemist and physicist of the expedition himself. Mr. Buchanan entered upon his work with nearly everything to plan and invent, both as regards what was to be done and how it was to be done, and he has continued and expanded it in many directions since, along lines similar in many ways to those followed on the *Challenger*. We welcome this volume of reprints of his original papers, both for historical reasons and for the permanent value of the results obtained.

Of the fifteen papers reprinted in this book, two deal with the distribution of temperature under ice in Linlithgow Loch, describing observations showing the fallacy of the belief that the temperature of the water of a frozen lake is always that of the point of maximum density. With these exceptions, they are all concerned with oceanographical matters; either describing methods and results of experiment, as in the papers on absorption of carbonic acid by saline solutions, on the composition of sea-water ice, on determinations of specific gravity, or on apparatus for deep-sea investigation generally; or else giving the results of observations in special regions of the ocean. The lectures on "Laboratory Experiences on Board the *Challenger*," and "Deep-sea Investigation and the Apparatus Employed in it," are of special historical value, as they describe in full detail the instruments and methods employed in deep-sea work from the time of Columbus up to and including the *Challenger* expedition itself.

Mr. Buchanan's work after the *Challenger* expedition was largely carried on in the cable ships of the Silvertown Company, which afforded him special opportunities for research in connection with lines of soundings on the west coast of Africa. The results are embodied in important

papers on the "Dacia" shoal, on the land slopes separating continents and oceans, and on the exploration of the Gulf of Guinea. The remarkable submarine valleys running out from the mouths of the Congo and other West African rivers are described.

#### OUR BOOKSHELF.

*Cabinet Timbers of Australia.* By R. T. Baker. Pp. 186 + lxviii plates. (Sydney: Technological Museum, 1913.)

THIS work directs attention to a section of Australian timbers which is especially suitable for cabinet work, furniture, and interior decoration.

More than sixty species, belonging to twenty-one different natural orders, are described and illustrated, the natural colour and graining of each wood being depicted by the aid of colour photography. There are also excellent illustrations in black and white of furniture and interior fittings made from several of the woods.

The coloured illustrations are the feature of the book. At first sight many of them give one the impression of being thin veneers, an impression only removed by fingering the surface of the picture. The very texture of the wood is so well brought out by this process that its working qualities can almost be predicted. We have placed actual specimens alongside the prints in several cases, and the majority of them match very closely. The text is not equal to the illustrations. Each plate is accompanied by a popular description of the timber and the uses to which it can be applied but the information given is very meagre. This is followed by a condensed description of the tree in technical language which will only be understood by the trained botanist. The geographical range of each tree is given, but little is said about the supply available, which is one of the most important points for the trade.

The main object of the author, however, is to interest Australians themselves in their native timbers and bring home to them the necessity for taking steps to prevent these valuable timber trees being exterminated in the process of clearing the land for settlement. The book certainly brings out the fact that Australia possesses a rich assortment of beautiful cabinet woods exhibiting a wide variation in figure, texture, and colour, and the Empire, no less than the Commonwealth, will suffer an irreparable loss if steps are not taken to stop the present waste of this valuable heritage of natural wealth.

*Marsh's Mathematics Work-book.* Designed by H. W. Marsh. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1913.) Price 3s. net.

THIS book consists of about 250 blank unruled sheets of writing-paper of good quality, divided into two sections. Each section is fastened to the book-cover by two strong paper fasteners, so that the sheets may be removed as required. The cover is of substantial quality, having leather