thousands of young lives were lost through its neglect. When we bow our heads before the Cenotaph we think of the highly trained men of science who were killed at Gallipoli or drowned in the mud of Flanders while Ministers turned for advice to alchemists and circle-squarers, or confused great chemists with dispensers of drugs, and we wonder whether even now anyone in power realizes what civilization has lost through the sacrifice of creators of knowledge. While we mourn their loss, let us work and pray for the scientific enlightenment of the leaders into whose hands the destinies of the nation are entrusted, so that we may be assured of strong and effective guidance whatever is before us.—*Nature*.

SCIENTIFIC BOOKS

The Geology of South Australia. By Walter Howchin, Lecturer in Geology and Paleontology in the University of Adelaide. Published by the Education Department, Adelaide, 1918. Pp. xvi + 543.

Division I. of this book is a general review of geologic processes and principles, with illustrations drawn chiefly from the geology of Australia. Incidentally, the illustrations bring out many facts concerning Australian geology, some of which are not readily available to the general reader. For example, in the discussion of deformation, it is stated that there are two belts of "settlement" (subsidence), one meridional, giving rise to the great rift valley, the ends of which make the present great gulfs, the other along the continental shelf at the south, running northwest and southeast, its location being about where the shallow sea floor slopes down to the depths. Settlement still is in progress in both these zones, and the earthquakes of Australia, of which two have been recorded in recent times, one in 1897, and one in 1902, are connected with the sinking.

Division II. of the volume deals with the historical geology of South Australia, but, fortunately, comprehensive notes are appended concerning the geology of other parts of the continent, so that this part of the book is a summary of Australian geology, with chief emphasis on South Australia. Brief correlation notes tie up the geology of the continent with that of England. The sections dealing with the Cambrian and the Permo-Carboniferous are perhaps of greatest interest because these systems have large and instructive representation in the continent. The Cretaceous also is represented in a large way.

The volume has excellent illustrations, both photographic and diagrammatic. The illustrations of Cambrian fossiliferous limestone, p. 377, are examples of the former, and the section of Mt. Remarkable, p. 279, of the latter.

The hope may be expressed that when a second edition of the book shall appear, a little more stress may be laid on the physical events in the history of the continent, as for example, the character, extent and dates of the principal deformations. If knowledge permits their preparation, paleographic maps would be most welcome. The volume is a very useful one, and adds much to our knowledge of the geology of the continent.

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SPECIAL ARTICLES

THE COMPRESSION OF A SOUND WAVE

Lord Rayleigh and more recently Professor A. G. Webster and others have given considerable attention to this problem. The following experiment, which is, I think, capable of exact development, is a further contribution.

1. *Apparatus.*—Many years ago[1] I showed that displacement interferometry lent itself favorably to the study of a diabatic expansion and this is particularly the case when the achromatic fringes are used. It is therefore suggested that the endeavor to look with the interferometer through the nodes of an organ pipe would not be unsuccessful.

Open pipes *P*, adapted for the purpose in question, are shown in Figs 2, 3. In Fig. 2, cylindrical adjutages *pp'*, of somewhat smaller diameter than the pipe (open within, but closed by glass plates *gg* on the outside) are

[1] Carnegie Pub. 149, Ch. XI., 1912.