

and the use of the word "foliæ" and the classical derivations generally require revision. A new edition of so attractive a book will soon be called for. We note that such modern points of interest as the lava-plug of Mt. Pelée and the wanderings of pebbles from Ailsa Craig find a place in this lucid introduction to geology.

(2) Mr. Süssmilch's work on New South Wales is an enlarged edition of that published in 1911 (see NATURE, vol. xc., p. 590). It deals only briefly with surface-features, and is intended for readers who already possess a knowledge of general geology and of the terminology of the science. Such readers, we have reason to believe, are far more prevalent in colonies where mining development has been active than they are in our own islands, where exploration is practically complete. The success of Mr. Süssmilch's book indicates a good educational level in New South Wales. It is well illustrated by photographs, maps, and sections; among the last, those of the Permo-Carboniferous (late Carboniferous and Permian) coal-basins, in which glacial horizons occur, are of especial interest. The fresh-water conditions under which Triassic and Jurassic strata were deposited are dealt with in chapter xi., and the origin of the artesian water is touched on at the close. The latest publication, by the by, on this important and much-disputed question has been issued by the Department of Mines for New South Wales (E. F. Pittman, on "The Great Australian Artesian Basin"), and contains a detailed criticism of Prof. Gregory's views on the magmatic nature of the supply. Mr. Süssmilch "prefers at present to suspend judgment," and Mr. Pittman's paper, with its remarkably extensive bibliography, must now be consulted by those who are willing to go further.

The vegetation of successive periods in Australia is fully as interesting as the faunas. That of the Cretaceous period is known in New South Wales by conifers alone. The *Glossopteris* flora marks the Permo-Carboniferous horizons, while a *Rhacopteris* flora characterises the underlying Carboniferous beds (p. 89). We note that *Archæopteris* is quoted from the Lower Devonian estuarine shales of the Genoa River and from the *Rhacopteris* series in the Carboniferous. The author (p. 84) inclines to divide the "so-called Gympie beds," placing some of them, containing *Lepidodendron australe*, with the *Lepidodendron* beds of Devonian age.

The pictures of fossils are excellent, and the book is a pleasant addition to the growing library of the empire. Misprints are extremely rare; the spelling "Kosciusko" has long received geographical sanction.

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### OUR BOOKSHELF.

*Logic, Deductive and Inductive.* By Carveth Read. Fourth Edition. Pp. xvi+417. (London: A. Moring, Ltd., 1914.) Price 6s.

As this is the fourth edition—though enlarged and partly re-written—of the work under notice, it is not necessary to review it in detail. It is sufficient to mention, by way of reminder, that for the most part it follows the schemes of J. S. Mill and Prof. Bain, beginning with propositions and terms, and moving through the syllogism to induction, then dealing with causation, hypotheses, and fallacies. Perhaps the treatment of hypotheses might be noticed as specially interesting and good, the difference between hypothesis and theory being well brought out. Also, the nature of proof, *e.g.*, is very neatly put: "If a new agent be proposed, it is desirable that we should be able directly to observe it, or at least to obtain some evidence of its existence of a different kind from the very facts which it has been invented to explain" (p. 270). It is also well pointed out that science is a "way of thinking," and that though we inevitably follow perceptual analogies in our hypotheses—thinking of atoms and æther as perceptible things, which they are not—these hypotheses are useful even if wrong. There is no reason to be afraid of inventing an hypothesis. Ockham's razor may be too vigorously plied. We live by hypotheses in the affairs of daily life. If I lose my fountain-pen, I guess where it is, and then go to verify or disprove. So with science, the discoveries of which are often inspired guesses.

*Oxford Outline Maps.* Edited by Prof. A. J. Herbertson. (Oxford University Press.) Price 1d. net each, 9d. net for 12 of one kind, 1s. 4d. net for 25 of one kind.

THESE outline maps have been drawn for use in the exercises contained in the text-books of geography, of which Prof. Herbertson is the author, issued by the same publishers, but they will accompany usefully other modern class-books of geography. The maps are clear and well chosen, and are evidently the work of a cartographer familiar with the needs of schools.

*Air, Water, and Food from a Sanitary Standpoint.* By A. G. Woodman and J. F. Norton. Pp. v.+248. Fourth edition. (New York: John Wiley and Sons. London: Chapman and Hall, Ltd., 1914.) Price 8s. 6d. net.

THE first edition of this book, which was by the late Mrs. Ellen H. Richards and Prof. A. G. Woodman, was reviewed in the issue of NATURE for October 25, 1900 (vol. lxii, p. 620). The book was first written from a "missionary" point of view, but actually became used in colleges and technical schools, and the present authors have changed somewhat the character of parts of the volume. All the discussion on air and water has been rewritten, the section on milk has been recast, and numerous additions have been made throughout.