is described, on p. 91, as *Thuya excelsa*, a name unknown to botanists. The author is unaware that it is already described in the preceding page under its correct name, *Cupressus nootkatensis*. The note on p. 77 about Douglas fir is misleading. The two kinds of this timber, which are distinguished by the Western lumberman, are "red fir" and "yellow fir," the colour and quality varying with the rate of growth of individual trees of the same species. The statement that only 500 Wellingtonia trees are now living is quite inaccurate, as this species occurs in countless numbers in the southern part of its area in the Sierra Nevada.

Many more instances might be given of the carelessness with which this compilation has been made. These errors detract seriously from the value of the book to the student. The price is cheap, only six shillings for 350 pages and 54 illustrations; and the practical man, for whom the work is intended, may find it worth the money, in spite of its inaccuracies.

OUR BOOK SHELF.

Biology and its Makers; with Portraits and other Illustrations. By Prof. W. A. Locy. Pp. xxvi+469. (New York: Henry Holt and Co.; London: G. Bell and Sons, 1908.) Price 10*s*. 6*d*. net.

THIS is a carefully executed historical introduction to the study of biology, and should prove very useful to students. Its aim is to sketch the broad features of biological progress, "and to increase the human interest by writing the story around the lives of the great leaders." Prof. Locy has shown shrewd judgment and a praiseworthy restraint in his selection of subjects, the result being that the student can get from this book a general view of the development of biology, yet with enough concrete illustration and biographical information to be vivid. The author has evidently gone to the original documents, and he has had his reward; he has given us a book full of fresh interest and suggestion. In the course of years Prof. Locy has made a large collection of interesting portraits of biologists, many of which adorn the walls of his laboratory at Evanston, and point a moral too. Of this collection he exhibits a fine sample in this volume. Some of the rarer ones are unfamiliar even to biologists, and have been discovered only after long search in libraries.

The book is divided into two sections. "In the first are considered the sources of the ideas—except those of organic evolution—that dominate biology, and the steps by which they have been moulded into a science." The succession of chapters is as follows:—Aristotle and his foundations; Vesalius and the overthrow of authority in science; Harvey and experimental observation; the introduction of the microscope and the progress of independent observation; the progress of minute anatomy; Linnæus and scientific natural history; Cuvier and the rise of comparative anatomy; Bichat and the birth of histology; the rise of physiology—Harvey, Haller, and Johannes Müller; Von Baer and the rise of embryology; the cell-theory—Schleiden, Schwann, and Schultze; protoplasm the physical basis of life; the work of Pasteur, Koch, and others; heredity and germinal continuity—Mendel, Galton, and Weismann; and the science of fossil life (a bad title). The second part of the book deals with the evolution theory, and the last chapter contains an interesting retrospect and prospect.

It is difficult to avoid misprints when dealing with many names and titles; we may note in illustration the title of Leydig's treatise of 1864 (p. 102), Weissmann (p. 109), Fleming (p. 256), Carl Pearson (p. 318), Neumayer (p. 352), Downs as Darwin's home (p. 426). Is it the case that Darwin spoke of "incredibly dull lectures" at Cambridge? We doubt if it can be said that Lamarck was the first to use a genealogical tree to express relationship of types, for was not Pallas earlier? But these are trifling blemishes in a wholesome and interesting book, and we offer Prof. Locy our congratulations. J. A. T.

Psychologie als Grundwissenschaft der Pädagogik. Ein Lehr- und Handbuch unter Mitwirkung von Seminardirektor Dr. K. Heilmann, herausgegeben von Direktor Dr. M. Jahn. Fünfte verbesserte und vermehrte Auflage. Pp. xii+527. (Leipzig: Verlag der Dürr'schen Buchhandlung, 1907.) Price 7.50 marks.

"THE psychological principles useful to the teacher could be written on the palm of the hand." This dictum of the psychologist who is himself the most brilliant teacher of his subject to the English-speaking world rises in the mind by force of inevitable contrast as one takes up this portentous volume.

Five hundred and six large and well-filled pages are the space which Dr. Jahn demands for the exposition of the psychology that he and his colleague regard as the necessary scientific foundation for the professional studies of German pedagogues—and their estimate has been endorsed by their public to the extent of five editions. No one—at least in this country—could pretend that the knowledge of all that is contained between these covers is necessary to professional salvation. As Mr. Benson has said, "A brisk, idle man with a knack of exposition and the art of clear statement can be a scandalously effective teacher." But if we are to have practitioners of the art of teaching comparable in point of professional culture with our engineers, our architects, and our medical men, there is no doubt that the topics discussed in this volume must become much more commonly studied among us than they are at present.

To the student who reads German with fair facility and is not in a hurry, Dr. Jahn's book may be warmly recommended. It is lucidly, though not brilliantly, written; it is clearly and sensibly arranged, though it preaches no strongly individualised doctrine; it is encyclopædic in range, and abreast of the present development of the subjects it touches. The notes at the end of each section, and the select bibliography at the end of the book, will be found a very useful guide to more extended reading—though the English and French works recommended appear to be confined to those that have been translated into German.

A Brief Course in Elementary Dynamics for Students of Engineering. By Ervin S. Ferry. Pp. xi+182. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1908.) Price 5*s*. net.

A WORK on elementary dynamics written especially for engineers gives one reason to expect something rather different from the usual text-book on purely mathematical lines, but the present work does not appear to have any particular interest for an engineering student. We are asked to consider the usual problems of blocks sliding down inclined planes, particles moving in circles, ladders leaning against walls, and, in fact, we find all the usual paraphernalia which the mathematical schoolmaster has invented for teaching the subject.

The work must therefore be regarded quite apart