

produced. The account of the cultivation in America of Scots pine, European larch, and Norway spruce is of considerable interest. All three grow well for a time, but never make good trees in the eastern parts of the United States.

(3) The "Handbook of Forestry," which has been issued by the Cooper Laboratory at Watford, is inconvenient to handle, being a thin folio of 82 pages, with 25 illustrations of very unequal merit. While generally sound in regard to practice, it contains nothing that has not been said before in several small, handy text-books, and is startling in its omissions. While the London plane is included as a forest tree, the Corsican pine, which is the most valuable of its genus for many soils and situations, is omitted. In the chapter entitled "conditions affecting growth" nothing is said about the important questions of altitude, exposure to wind, situation near the sea or inland, and latitude, all important factors influencing the choice of species and the formation of new plantations. The "Black Poplar" (*Populus nigra*) is correctly drawn; but in the description it is confused with the "Black Italian Poplar" (*Populus serotina*), the fast-growing hybrid tree, which should always be planted in preference to the former, when timber is required.

Such statements as (p. 64) that the lime is not indigenous, and names like *Tilia magnifolia*, show that the author is not well acquainted with forest botany. The two native birches are distinguished by drawings, but nothing is said of their very different soil-requirements.

#### OUR BOOKSHELF.

*Practical Stone Quarrying: a Manual for Managers, Inspectors, and Owners of Quarries, and for Students.* By A. Greenwell and Dr. J. Vincent Elsdon. Pp. xx+564. (London: Crosby Lockwood and Son. 1913.) Price 12s. 6d. net.

WHEN our hard-headed forbears were roving Pilt-down, the art of the quarryman could scarcely have been in its infancy; yet we have far to travel in the mazes of the past if we must find its beginnings, and the work of some of the early masters of the craft still remains to excite our wonder. From the nature of the material ancient methods were very like our own, and probably differed mainly in speed.

Old though the art may be we are still in doubt as to what a quarry is; most likely the ancient quarryman was not troubled with this question, but now, what with Acts of Parliament, judicial embellishments, and the sanction of custom, it has become impossible to define "quarry." The authors of this volume have made a brave effort to clear up the confusion; it is very interesting, but scarcely successful. They have had almost as

much difficulty with "stone"; however, by including some "mines" among the quarries and omitting to take account of some materials which would come under their own definition of stone, they have succeeded in producing an eminently satisfactory book on the subject, one for which there was a real need.

After an adequate discussion of the occurrence of stone, the distribution of quarries in the United Kingdom, and divisional planes in rocks, there follows some excellent advice on the location of quarries and their proper development, a subject of the greatest importance.

A large amount of space is devoted to methods of extraction, tools, blasting, cableways, and haulage systems. The table, p. 300, giving the amounts of different explosives used in the United Kingdom, would have been more valuable if the explosives had been classified according to the kind of rock and the uses of the stone.

A short chapter treats of the preparation of stone for the market, another with the dangers of quarrying, and the book concludes with some remarks on quarry legislation which may be commended to the notice of those in authority. The volume is very well illustrated, and there is a fair index.

*The Microtome's Vade-Mecum.* A Handbook of the Methods of Microscopic Anatomy. By A. B. Lee. Seventh edition. Pp. x+526. (London: J. and A. Churchill, 1913.) Price 15s. net.

WE gladly welcome the new edition of this work which has become indispensable in all laboratories of biology. The general plan and the size of the book remain unaltered, but the author has managed by judicious "pruning," and some exclusion of out-of-date matter, to introduce much new matter, more than seven hundred additional entries appearing in the index.

Goldmann's *intra-vitam* staining methods, and improvements in the silver fibril stains of Biel-schowsky and Ramón y Cajal are detailed. Gibson's new mounting media, which dispense with the use of clearing agents, and confer on unstained or feebly stained objects just the required degree of visibility, are described. The sections relating to the blood and blood parasites have been rewritten. Not the least useful part of the contents are the full references given to the literature of the subject. Those who have worked with former editions will find that the present one maintains in all respects the high standard of its predecessors. R. T. H.

*Astronomy Simplified.* By Rev. Alex. C. Henderson. (London: James Clarke and Co., 1913.)

THE object of this book is, as the author states, "to extend a knowledge of the sublimest of the sciences," and he intentionally reminds the reader many times throughout the pages that while man is striving to find out the laws which govern the behaviour of matter in space, there is a greater