

voted to the former subject, 102 pages to the latter, and 14 pages to the table of contents, but there is no index. There are 106 plates representing the rates of increment in trees and woods, mature woods of different species, modes of pruning, destructive insects, methods of felling and transport.

The arrangement of the matter differs from that usual in other manuals of forestry; the account of the increment in trees and woods, which occupies the first 38 pages, being properly a part of forest mensuration, should come under forest management instead of under utilisation, and much of the latter subject as treated by Mouillefert is really sylviculture, and belongs, therefore, properly to vol. i. It is a pity that the French use the term sylviculture for the whole art of forestry instead of restricting the term, as we do, to the formation and tending of woods. The word "foresterie," which is sometimes used by French foresters, if employed in the same sense as "forestry" with us, would save much confusion of terms. The French also have no treatise on forest protection, which with us, as well as with the Germans under the title "Forstschutz," is a recognised branch of forestry, and hence in Mouillefert's book some account of damage by insects is given under the heading "exploitation," or forest utilisation.

Under the latter heading a full account is given of the methods of formation and tending of woods of the various species of trees, also of the utilisation of beech nuts for oil, of cork from *Quercus Suber*, of which a very complete account is given, of the cultivation of osiers, and of the production of truffles, to which 43 pages are devoted. It is therefore strange that scarcely anything is said about the production of resin and turpentine from the maritime pine, of which there are about a million acres in Gascony.

The production of poplar wood is largely followed by small landowners in France, and the wood of the grey poplar is preferred to all others, being said to be one quarter more valuable than that of the black or white poplars. Omitting the value of the land and considering only the cost of formation of a grove of poplar trees, Mouillefert states that they pay more than 12 per cent. on the capital expended, or that 80 trees per acre cost 3*l.* 10*s.* to plant, and yield 112*l.* at the end of thirty years, the hay grown under the trees paying for the cost of maintenance, including rates. The part of the book dealing with utilisation terminates with a short chapter on modes of felling and transport.

The last part of the book, on forest management, or the construction of forest working-plans, is short but effective, and includes nine cases of conversion from one system to another, and a chapter on usufruct in forests.

This book, as well as vol. i. of the series, contains some valuable information about French forests which is not included in the more professional treatises on French forestry, and we are promised two further volumes on the valuation of woodlands and on artificial plantations, so that the whole work when completed should prove valuable for reference.

W. R. FISHER.

#### OUR BOOK SHELF.

*The School Arithmetic: being a School Course adapted from "The Tutorial Arithmetic."* By W. P. Workman, M.A., B.Sc. Pp. viii+495. (London: W. B. Clive, University Tutorial Press, 1903.) Price 3*s.* 6*d.*

This useful volume is an excellent specimen of the work published by the University Tutorial Press. The treatment of the elementary rules calls for no special remark. The plan of explaining the nature of fractions and proving the rules applicable to them by exhibiting in parallel columns a particular arithmetical example and its generalised algebraic form is to be commended, inasmuch as by this means the student is impressed with the generality of the process and reasoning. The diagrammatic representation (p. 116) of the processes of multiplication and division of fractions appeals strongly to the understanding, and the teaching value of the book is much increased by the plan adopted by the author of cautioning the pupil against various errors into which he may be expected to fall. Contracted processes in the division and multiplication of decimals are adequately explained and illustrated. The interest of the schoolboy is secured in the chapter on averages by examples dealing with the cricket performances of the leading batsmen and bowlers of England, and with the various athletic "records" of the public schools.

Every branch of the subject is illustrated by a vast collection of examples. The treatment of compound interest proceeds without the use of logarithms, but to us it appears that an early introduction of the elements of logarithms into a school course is desirable, and that it would present no difficulty to an ordinary pupil. The use of a "log book" would greatly simplify calculations in questions relating to compound interest.

*Free-hand Lettering; being a Treatise on Plain Lettering from the Practical Standpoint for Use in Engineering Schools and Colleges.* By Victor T. Wilson, M.E. Pp. x+95; 23 full-page plates. (New York: John Wiley and Sons; London: Chapman and Hall, 1903.) Price 1 dollar.

This book is not a mere collection of copies which the student is to reproduce slavishly. The author states the object of the volume to be "to cultivate the conception that all lettering is design, that any mathematical or mechanical attempt at treatment is entirely impracticable in ordinary work." The information supplied and instructions given should enable the student to arrive at the end in view.

*Junior Country Reader.* III. Talks on Country Life. By H. B. M. Buchanan and R. R. C. Gregory. Pp. viii+198. (London: Macmillan and Co., Ltd., 1903.) Price 1*s.* 4*d.*

THESE simply expressed reading lessons should prove of great interest to young children in country schools. After reading what is here told him about the horse, cow, pig, and sheep, a boy should be able to give intelligent assistance in the care of these animals. The sections on rats and the weasel family, on ferrets, on animals met with in the woods, and on birds, should go a long way to develop a real appreciation of country life. The illustrations are numerous and good.

*Green Mansions: a Romance of the Tropical Forest.* By W. H. Hudson. Pp. 315. (London: Duckworth and Co., 1904.) Price 6*s.*

THIS story enables the author to show his familiarity with the vegetation, animal life, and climatic conditions of tropical South America. Incidents are subordinated throughout to descriptive writing, which, however, will interest many readers as much as the thread of romance running through the book.