

charms as their natures will allow. And also to show that the function of English is to furnish something of the liberal, humanizing and broadening element which is more and more felt to be a necessary part of an engineering education. The engineer is destined to play an important part in the drama of national life and must therefore be prepared to undertake his share of duties and responsibilities. The engineer, then, "must speak in terms of civilization, in human terms as well as material, or be a traitor to his opportunities." The introduction to this book is worth a careful perusal, for it contains many thoughts expressed in simple yet eloquent phrases.

The book contains excellent essays on Writing and Thinking, The Engineering Profession, Aims of Engineering Profession, Pure Science and Applied, Science and Literature, Literature and Life. One of the essays was written by Mr. John Lyle Harrington, who was educated at McGill University, Montreal. He contends that language is the engineer's most important tool and it therefore behoves him to see that it is always in good order. "It is because engineers are so little accustomed to order their thoughts and language properly that they have so little part in the business and correspondence of the corporations which employ them." This is a grave statement to make, but those who listen, observe and think will regretfully acknowledge that there is considerable truth in the assertion. "A technical man is, presumably, an educated man; and if he does not speak like one, suspicion is cast upon the entire range of his learning." "Language has large weight in classifying a man infinitely more than manners or dress." "The preparation of reports, specifications and contracts is the most particular and momentous task the technical man has to perform." "Probably the majority of the civil lawsuits are caused not by trickery or deceit or dishonesty but by the use of ambiguous words and phrases, bad ordering of the matter, incompleteness and other faults in the language of the correspondence, specifications and contracts." Such are a few of the observations made by Mr. Harrington.

Dr. Mann states that nearly one-third of the answers to enquiries made by the Joint Committee on Engineering Education complain of the engineer's inability to express himself well in speech and writing.

The reviewer had previously read the late George S. Morrison's book titled "The New Epoch," and without doubt it should be read by all engineering students. Three of Morrison's essays are presented here. The engineer epigrammatical observations is as follows: The work which "is the priest of material development, of the work which enables other men to enjoy the fruit of the great sources of power in nature and of the power of mind over matter. He is the priest of the new epoch, a priest without superstitions." An essay by General Francis A. Walker, a graduate of Amherst, also should be of special interest to Canadians. He states that the student's success in life and in his professional and social position largely depends upon the manner in which his work is done in college. He argues that "all that can be asked in regard to any school is that there shall be zeal in study, delight in discovery, fidelity to the truth as it is discerned, high aims and ambitions which have not sole or primary respect to material rewards." Such a standard is a magnificent one to attain, and requires the services of men of fine qualities to maintain.

Prof. Haultain has often publicly emphasized that the most important function of an engineer is to be useful to the community and in this regard he has the endorsement of General Walker—"to become an useful man, well-equipped for life, capable of doing good work, respected

and entitled to respect," should be some of the attributes of an engineer.

The other writers of the essays are such men as John Ruskin, Arnold Bennett, Frederic Harrison, George Henry Lewes, John Butler Johnson, Thomas Henry Huxley, John Tyndall, John Henry Newman, Matthew Arnold, William Wordsworth, William P. Atkinson, Robert Louis Stevenson, Ralph Waldo Emerson and Thomas Carlyle. Stevenson's essay on "The Influence of Books," is excellent; in fact, all of the essays are excellent, but some are more easily assimilated by the reader.

This volume should not only be on the engineer's shelf, but frequently read, for by repeated perusals and study we may acquire an adequate diction to clothe the skeleton thoughts we desire to express.

Instructions to Locating Engineers and Field Parties.

By F. Lavis, M.Am.Soc.C.E. Published by the McGraw-Hill Book Co., Inc., New York. 44 pages, 10 folding maps and charts, 6 x 9 ins., cloth. Price, \$1.00. (Reviewed by James H. Kennedy, M.Can.Soc.C.E., Vancouver, B.C.)

This work is designed to fill a long-felt want, as there has not been any work published on this subject confined exclusively to just what is necessary to this class of work, though there are several larger works that give instruction along this line, together with other matters. I think it will become quite popular with the younger locating engineers especially. The work bears the earmarks of an author who has had experience in the field in which he writes. The instructions given for carrying on survey work are in accordance with the best up-to-date practice for large undertakings, and no doubt are intended to be varied somewhat for smaller undertakings and local conditions, that will be apparent to the man in charge.

In regard to the keeping of field notes the author gives excellent advice; and he might have gone further and advised the instrumentman that no company will keep a man on the payroll for the purpose of an expert to interpret his own notes, and no instrumentman who does not keep his note book properly indexed, dated, etc., up-to-date as the work proceeds, should be allowed on such work.

The lists of equipment, supplies, etc., are very full and complete and will be found a very great help to engineers outfitting for work. There are many engineers, who are masters of the situation when locating work is in progress, but find great difficulty in making the proper lists of supplies for camp outfit and provisions.

The work should be in the stationery box of every locating engineer when he leaves the head office, and for distribution in Canada it is to be hoped the author may add a page giving the requirements of the Railway Commission regarding preparation of plans and profiles.

Manual of Reinforced Concrete.

By Marsh and Dunn. Published by Constable & Company, London, 1916. 475 pages, 101 illustrations, 4 1/4 x 6 1/2 ins., leatherette. Price, \$3.00. (Reviewed by Peter Gillespie, C.E., University of Toronto.)

The third edition of Marsh and Dunn's Manual of Reinforced Concrete has recently come to hand. The authors, in rewriting the volume, have introduced much new material and incidentally omitted some matter included in previous editions, in order to keep the book within reasonable limits. The work is largely a compilation from a great multitude of sources, the publications of the British and American engineering organizations and the technical press of both the old world and the new