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The Calorific Power of Fuels. By Herman Poole, F.C.S.
Published by John Wiley & Sons, Inc., New York,
and Chapman & Hall, Limited, London; Canadian
selling agents, Renouf Publishing Co., Limited,
Montreal. Third edition, re-written by Robert
Thurston Kent, M.E. 267 pages, illustrated, 6 x 9
ins., cloth. Price, \$3. (Reviewed by R. O. Wynne-
Roberts, consulting engineer, Toronto.)

Fuel is undoubtedly the great and absorbing subject of the time, and the prospects of improvement in quantity and quality are somewhat remote, for even after peace is declared it will take months, at least, to enable the conditions to be readjusted.

Since 1898, when the first edition of this book was issued, many improvements in the use of coal, in the testing of its value, and in the efficiency of its consumption, together with the development of science in the production of new fuels, have taken place. And, moreover, the information collected by careful studies, under practical conditions, afford an abundant scope for discussion. The fuel tests made by the United States Geological Survey and the United States Bureau of Mines, and the comprehensive and valuable reports issued, form the basis of the third edition of this book.

This volume is divided into eleven chapters and appendix. Chapters 2, 3, 4 and 5 deal with calorimeters and calorimetry. As the book was originally commenced as a translation of M. Scheurer-Kestner's "Pouvoir Calorique des Combustibles," several of the calorimeters described are mainly European. Some well-known calorimeters are not mentioned, such as Parr's, Boys', and others.

Chapter 6 contains many tables giving data as to the analyses and value of coals found in the United States, Europe and elsewhere. Lignites are to be found in most countries. The writer had occasion in 1912 to investigate the lignite deposits in Saskatchewan and presented a report thereon to the provincial government. Consequently, any new information on this fuel was welcome, but my wish was not gratified to any appreciable extent, when perusing this book.

Peat is at present occupying considerable attention in parts of Canada. The author states that peat is partly decomposed and disintegrated vegetable matter that has accumulated in any place where the ordinary decay or decomposition of any material has been more or less suspended, although the form and a considerable part of the plant structure are more or less destroyed. It is formed by the agglomeration of vegetable debris and retains a large amount of water, which will not separate without heat. Its composition varies but little from that of wood, the principal difference being less oxygen and more carbon. The heat of combustion is lower than that of coal or lignite. The relative heating values of peat and other fuels are given as follows: Pennsylvania anthracite, 12,366 B.t.u.; Pittsburg bituminous coal, 13,365 B.t.u.; Texas lignite, 7,870 B.t.u.; Wisconsin brown peat, 7,468 B.t.u.

Brix obtained with peat an evaporative power of 5.11 lbs. of water.

Peat that is reduced to a powdered form has a larger percentage of volatile matter than coal, burns with a hot flame, and is well adapted for use in powder burners.

Seven pages are devoted to peat and four pages to wood fuel. Denatured alcohol may some day be a very important liquid fuel, especially as it can be produced with facility in Canada.

The appendix contains the code issued by the American Society of Mechanical Engineers relating to boiler tests, and eighteen tables.

The book will be found useful. It is well printed and written in plain terms.

PUBLICATIONS RECEIVED

Smithsonian Institution.—Annual report, 1916. Chas. D. Walcott, secretary, Washington, D.C.

Concrete Pressure Pipe.—Pamphlet published by Portland Cement Association, Chicago.

Existing Lake Levels.—Report of George M. Wisner, chief engineer, Sanitary District of Chicago.

Smith Gas Producers.—Illustrated catalogue published by the Smith Engineering Company, Lexington, Ohio.

The Ontario Bureau of Mines.—Report for 1917. Department of Lands, Forests and Mines, Toronto, Ont.

A Trip Through the Plant.—An illustrated pamphlet published by the Seybold Machine Co., Dayton, Ohio.

Ontario Provincial Board of Health.—Report for 1916. Published by Provincial Board of Health, Toronto, Ont.

Mines Branch of the Department of Mines.—Summary report for 1915. Published by Department of Mines, Ottawa, Ont.

Production of Cement, Lime, Clay Products, Etc., in Canada for 1916.—Mines Branch, Department of Mines, Ottawa, Ont.

Report of Minister of Public Works.—Report for the fiscal year ending March 31st, 1917. Department of Public Works, Ottawa, Ont.

American Society of Municipal Improvements.—Transactions for 1917-18. Published by Charles Carroll Brown, Secretary, Indianapolis, Indiana.

Dam and Water Power Development at Austin, Texas. Report by Daniel W. Meade. Published by the author and Charles V. Seastone, consulting engineers, Madison, Wisconsin.

Proceedings of American Institute of Electrical Engineers.—Published under the auspices of the Meetings and Papers Committee. Single copies, \$1.

The Collapse of Short, Thin Tubes.—By A. P. Carman, Engineering Experiment Station, University of Illinois. Illustrated. Bulletin 99. Published by the University of Illinois, Urbana, Ill. Price, 20c.

Espanola District, Ontario.—By Terence T. Quirke. Memoir 102, Geological Survey, Canada, No. 85, Geo-