

a quiet part of the river which freezes over entirely in cold weather rather than from a point on or below the rapids where frazil is formed in great quantities.

The most important parts of the book are those dealing with the formation of anchor-ice and frazil, and Dr. Barnes's temperature observations. The small section on glacier motion is hardly in accord with the present ideas of glacialists.

To any one interested in the engineering problems brought about by ice, or in the general phenomena of ice formation this book will be extremely interesting and useful.

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The Chemistry of Commerce, A Simple Interpretation of some new Chemistry in its Relation to Modern Industry. By ROBERT KENNEDY DUNCAN. New York and London, Harper and Brothers. 1907.

This is a book intended by its author "to interpret into simple terms and for educated lay-folk some new science in its relation to modern industry." The author seems to have realized the difficulty involved in this problem which he had planned for himself or which had been submitted to him by others. Whether the "one object of the book" indicated in the opening sentence of the introductory chapter, "to convince the manufacturer, through instances taken here and there, how absolutely applicable is modern science, to the economy and progress of manufacturing operations" will have been attained through it remains to be seen. Certainly it is not easy to make a manufacturer, prosperous in spite of his wastes, realize the importance of the economies which may be discovered and applied through the aid of thoroughly educated men, and lead him to the practical application of such economies. Adversity and active competition are the influences which are most effective in bringing about such policy, wise, at all times, and it is exceedingly doubtful if it can be brought about by even the most attractive presentation of generalities—carefully prepared balance sheets are far more interest-

ing and intelligible to the manufacturers of this country at least; and while the author has made a most interesting and readable book, it will, we fear, be read with closer attention and appreciation by those lay-readers who least need it, in view of the object of its preparation. In twelve chapters the following subjects have been treated: Catalysis, Fixation of Nitrogen, Rare earths and their uses, High Temperatures and Modern Industry, Modern Chemistry and Glass-making, Industrial Alcohol, Floral Perfumes, Making of Medicines, Microbe Inoculation, Cellulose, Industrial Fellowship. Each subject furnishes the author with illustrations of the importance of the application of scientific methods and the truths they develop, in industrial work. Manufacturers who are inclined or are desirous to proceed in rational ways to attain the best results in quantity and quality of product and in cost of operation, must certainly be attracted by what the author has presented. But those who most need the book will not, we fear, read it; while those who will read it need it least. Yet those of us who know the full truth of all that is presented in the book will at least hope that it may be widely read and that the suggestions it offers may find extended application not only for the good of manufacturers, but for the world at large. The book then is generally acceptable, but it may be criticized by some readers on account of the statement to be found on page 177. "But this was in the days long ago . . . when experimental medicine was carried on by physicians like Paracelsus, who stood by the bedside of his patient, watch in hand," etc. Many readers will remember that the first watch was made one hundred years or more after the death of Paracelsus. Such pleasantries seem out of place in such a book and the technical description of the analytical method for standardizing drugs involving "dissolving out with chloroform and ultimately titrating them with sulphuric acid" will scarcely attract the lay-reader. The use of the word "dubiety," when the more familiar "doubt" would serve, may unfavorably affect some of the lay-readers the book is specially intended to influence favorably.

Furthermore, the statements regarding the cost of manufacture of industrial products, such as alcohol, unless they have been scrutinized and confirmed by experienced manufacturers, must be accepted with reserve and may also have some tendency to defeat the object of the book. WM. McMURTRIE

Synopsis of Mineral Characters. By RALPH W. RICHARDS. New York, John Wiley & Sons; London, Chapman & Hall, Ltd. 1907.

This is an alphabetically arranged list of minerals and their chief physical characteristics, with concise definitions and descriptions; the chemical composition expressed by an empirical formula. Simple blowpipe reactions are also given. The book is intended as a reference work for those who have studied mineralogy and need notes to aid in the identification of minerals in the field. It is a compact 12mo of 100 pages, which may be carried about in the pocket conveniently, and will undoubtedly prove very useful to students and field workers. J. P. IDDINGS

SOCIETIES AND ACADEMIES

THE FORTIETH ANNUAL MEETING OF THE KANSAS ACADEMY OF SCIENCE

At the meeting of the Kansas Academy of Science held in Emporia on November 29 and 30, among the many important papers read the following may be mentioned:

"Natural Gas obtained from Trees," by F. W. Bushong and D. F. McFarland. This paper gives an analysis of natural gas obtained by boring into cottonwood trees. The authors showed that this gas contained 7.21 per cent. of carbon dioxide and about 61 per cent. of marsh gas, and 30 per cent. of nitrogen. L. E. Sayre discussed the percentage of extractives in certain drugs and spices, and commented on the necessity of having improved and reliable methods for making these determinations. He also mentioned some "fake" medical preparations that were upon the market, and referred to the work of the board of health in trying to reform the fraudulent methods of labeling. Considerable attention was paid to the progress of the water survey of Kansas in papers read upon

the chemical work by E. H. S. Bailey and F. W. Bushong, on the bacteriological work by M. A. Barber and W. J. Starin, on the field work by H. N. Parker, and upon engineering problems by W. C. Hoad. C. F. Menninger read a paper on "Gastric Ferments," showing the remarkable advancement in the knowledge of this subject that has recently been made. F. B. Dains and E. W. Brown reported on the reaction of formamidines, giving an account of some newly discovered bodies. Some new finds in the Kansas Chalk beds were reported by Chas. H. Sternberg. A fossil tooth and other bones from Phillips County was discussed by J. T. Lovewell. A very practical paper on the "Food Habits of the Blue Jay" was read by L. L. Dyche. In this he showed the murderous intent of this bird, not only from observation, but also from numerous dissections of the blue jay, in which the heart and other vital parts of birds were found in the crop. Grace R. Meeker discussed a curious "Impatiens" recently found. W. Knaus, besides reporting on additions to Kansas coleoptera, mentioned some new coleoptera found in New Mexico, and many interesting species collected at night in McPherson, Kansas. "A Parasite on Eggs of Mantis" was the subject of a paper by Mrs. L. C. R. Smyth. L. C. Wooster read a paper on the "Antiquity of Man's Body-building Instincts." B. R. Rogers in a paper upon "Tuberculosis" emphasized the importance of greater precautions to prevent the spread of this disease. "The Abnormal Character of Man" was the title of a paper by J. M. McWharf. W. F. Hoyt in an entertaining way gave a report on some scientific frauds and fallacies. The "Buried City of the Panhandle" was the subject of a paper by F. L. Eyerly. B. B. Smyth discussed harmonics and magic hexagons. The advantage of fireless cooking was explained by J. T. Lovewell. H. P. Cady gave a résumé of his work on the occurrence of neon in natural gas, and showed that it was possible to obtain neon in appreciable quantities from this source. Papers on the "Quantity of Water found in Oysters" as they are marketed, and the "Occurrence of Copper in Oysters," were pre-