details about the personalities involved, and a picture is drawn of an ideally efficient institute for the advancement of knowledge in this field. The author does not hide his belief that German men of science are more gifted than those from other countries, and that Fritz Haber was the greatest of them all. He is fond of speculating on what might have happened had circumstances been different, and the main circumstance to which he attributes Germany's defeat is the selfishness of second-rate bureaucrats, who would not listen to their technical advisers. This theme recurs and tends to irritate the reader by spreading an atmosphere of grievance over the book. The author hopes to aid the unimaginative bureaucrats of to-day by putting ideas in their heads, but the ideas are only vaguely put forward, and must have occurred to anyone who has given serious thought to the matter. There is no evidence that it would be possible to put them into practice.

The results of a number of German investigations are now published for the first time, but without those corroborative details which alone can carry scientific conviction. Indeed, there are so many obvious minor errors that it is impossible to know whether any particular statement is reliable or not. Misprints, of which there are many, are easily detected when they only involve single letters, but apt to be confusing when, for example, it is said that cyanogen chloride is heavier than cyanogen chloride, or when the same formula is given for both phosgene and diphosgene. There are faults in the English, such as when "tearing" is used to denote the shedding of tears. Concentrations of gas are usually given in milligrams per cubic metre only, but on p. 195 they are also given in cubic millimetres per cubic metre, and the two sets of figures cannot both be correct. This fact casts doubt on the other figures in the book.

It is hoped that Dr. Wachtel will be able to give the scientific and military men of his adopted country more direct help than they will get by reading this book, which has too many facts for a popular book and too few for a scientific book.

CANADIAN NATURAL HISTORY

A Naturalist in Canada

By Dan McCowan. Pp. xii+284+20 plates. (Toronto: The Macmillan Company of Canada, Ltd., 1941.) 15s. net.

THE author of the book under review displays more than a speaking acquaintance with the natural history of both the Old and the New Worlds. Since his boyhood days in Scotland, Mr. McCowan has been an ardent student of Nature in the field, and his migration to Canada many years ago merely served to intensify his curiosity concerning the why and wherefore of all things animate and inanimate. He is no armchair naturalist.

A brief glance at the subject-index immediately serves to acquaint the reader with the diversity of the subjects discussed by the author, which are distributed through thirty-nine chapters and embrace such widely divergent topics as the preparation and uses of pemmican, the status of the oolachan or candle fish, the economic importance of the whitefish of Canada's inland lakes, the breeding and blood-sucking habits of the vexatious and persistent

northern mosquitoes or "animated gimlets", the ways of eagles and other rapacious birds, and the secluded man-avoiding habits of the isolationist colonies of the white pelican. Other interesting chapters are devoted in whole or in part to the edibility of wild plants, the chorus of frogs which contributes in no small measure to the reality of the Canadian spring, and the habits and conservation of Canada's wild ungulates including the musk-ox, moose and Rocky Mountain goat as well as the reduced populations of the pronghorn antelope and buffalo, now protected in special reservations as wards of the Government of Canada.

No account of Canada's natural history resources would be complete without mention of the rich Dinosaur beds of the Red Deer River valley at Drumheller, Alberta, and the fossil rock libraries of the Rockies; so, due attention is paid to these in a special chapter entitled "The Record of the Rocks".

As for the plan of the book, the marked lack of an ordered sequence in the arrangement of the chapters is explained by the fact that each represents a separate and distinct unit prepared for presentation in a series of broadcasts to Canadian listeners. Thus the circumstances which inspired the book may serve to explain the double standard of diction employed by the author. At times, for the sake of expressiveness, the author does not despise the use of modern trite expressions, while at other times he proves himself equally facile in welding the beauty of words to the beautiful things of Nature. As an example of the former the reader is referred to p. 77, where the author, in stressing the importance of the house-fly, as a vector of disease conveys his meaning in the following words: "Many kinds of germs thumb a ride in the hairy coat of the fly and thus are enabled to make a happy landing in places where unscreened meat or other human food is exposed." As an example of the latter the reader is referred to the following passage on pp. 270-271: "The times may be out of joint and the world of men all awry, but in the woods and fields and on the lone moorlands the flowers and the bees contrive to work together harmoniously and in peace. They are not vexed by the rattle of sabres nor by the ceaseless clang of the armourer's anvil. Overhead are blue skies and white clouds, morning sunshine sparkles on the rippling lake and clear-running stream: the leafy trees cast a grateful shadow at noon. When evening falls there is dew on the meadows and a great hush in the green forest."

In these days of modern ecological methods where the behaviour of species is measured with a yardstick, their reactions resolved in the columns of lengthy tables and reduced to graphical representation, it is refreshing to pick up a book in which the author, imbued with the sheer joy of his subject, looks at Nature clear and whole and not as so many separate pieces of a picture puzzle.

To those of us who have had the privilege of observing and studying Nature on both sides of the Atlantic, Mr. McCowan's book strikes a responsive chord and serves to recall many memorable days spent in collecting and research in the vast open spaces of the Canadian West, where often for company there was naught but the boom of the bittern among the reeds, the laughter of the loon on the lake, the bark of the coyote in the grove or the splash of the musk rat in the slough. Even solitude had its enchantment.

A. E. CAMERON.