

appears to the author that the numerous descriptions of fossils which are given in many elementary text-books simply tend to burden the memories of readers, if indeed they attempt to learn them, and can well be left to more advanced treatises. If the study of science is not made practical, the learner can employ his time to more advantage in reading history and romance or in the study of languages.

It is assumed that most of our readers will have some knowledge of physics and chemistry which form the groundwork for a thorough understanding of mineralogy. An acquaintance with the latter is essential to the geologist. He must have a knowledge of mineralogy before he can properly understand the character of rocks and the effects which are produced on them by atmospheric and other agencies.

Since most common minerals can be identified without the use of chemical or blowpipe tests, the description of these tests has been placed in an appendix. This will avoid confusing the reader who may have little chemical knowledge or who will not always have the requisite reagents and apparatus at hand.

Numerous excellent books are available for the reader who wishes to supplement the descriptions on the following pages. A small list of such works will be found at the end of this volume.

The author is indebted to several of his friends for criticisms on the text and for the use of photographs.

To Professors Goodwin, Nicol, Brock, and Mr. M. B. Baker, of the Kingston School of Mining, special thanks are due for the interest they have taken in the preparation of the book. I am much indebted to members of the staff of the Geological Survey of Canada, whose names are given in connection with the illustrations, for the use of photographs.