MINERALOGY

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FREDERICK H. HATCH

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BY

FREDERICK H. HATCH, PH.D., F.G.S.,

OF THE GEOLOGICAL SURVEY OF ENGLAND AND WALES;

Author of "An Introduction to the Study of Petrology."

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TABLE OF CONTENTS.

PREFACE.

MINERALOGY, which in the early days of British Geology was a favourite pursuit, has suffered some neglect in the latter part of this century—a neglect which, no doubt, is partly to be attributed to the rapid development and general culture of the biological sciences. Notwithstanding the attractiveness of the study of *life* in its manifold variety, an ignorance of the characters and properties of the *inanimate* products of Nature, on the part of those who cultivate the natural sciences, is to be deprecated, especially in a country that draws its chief wealth from its mineral resources. A knowledge of mineralogy is evidently essential to the miner: its acquisition should precede the study of geology, and accompany that of chemistry: while in itself the science may be made to serve as an excellent training for the eye, the hand, and the judgment.

Taking this view of its importance and being aware of the want of a popular introduction to the subject, I have willingly responded to Messrs. Whittaker's request that I should add a volume on MINERALOGY to their "Library of Popular Science."

It is my pleasing duty to acknowledge Messrs. Macmillan's courtesy in permitting me to reproduce figures that have appeared in books published by their firm.

Some of the illustrations are taken from photographs of specimens in the Museum of Practical Geology.

F. H. H.

28, Jermyn Street, S.W.
Feb., 1892.

MINERALOGY.

PART I.

CHARACTERS OF MINERALS.

THE study of the visible portion of the earth's solid crust by the geologist has firmly established the fact that it is chiefly made up of material which is either of igneous origin, having consolidated from a molten state, or consists of sediments that have accumulated at the bottom of former seas and now lie piled up one above the other in strata many thousands of feet thick. These rock masses, whether igneous or sedimentary, consist of the inorganic substances known as **Minerals**. Besides those which unite to form rocks, there is a great variety of other minerals filling chinks and fissures in the crust, and comprising, *inter alia*, many of the valuable ore-deposits which are the source of our metals.

It is the business of the mineralogist to study the chemical and physical properties of these different kinds of mineral matter, and to classify them according to the facts thus elicited.

In accordance with this principle, this little book has been divided into two parts, of which the present part deals with the characters, or "physiography," of minerals,