

**CLASS-BOOK OF
ELEMENTARY
GEOLOGY**

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Class-Book of Elementary Geology by Frederick Wollaston Hutton

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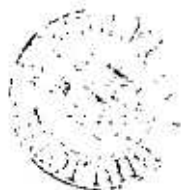
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FREDERICK WOLLASTON HUTTON

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GEOLOGY**

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OF
ELEMENTARY GEOLOGY.



BY
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"It is not too much to say that in our time practical geology has been one of the best schools of philosophical and general culture of mind."

WHEWELL,

History of the Inductive Sciences, iii. p. 571.

PREFACE.

THIS little book is intended to meet the want in the Colonies of a class-book of Geology, which, while it enters with sufficient fulness into those generalities of the science that apply to all countries, omits details of the geological structure of Britain or America, such as fill the greater part of other text-books written in the English language, and which add greatly to their price without being of any use to junior students. Indeed, these details are sometimes worse than useless. I myself know more than one amateur student of Geology who has been sorely puzzled at not having come across the Old Red Sandstone or the Mountain Limestone in New Zealand, but is still somewhat comforted by the conviction that at any rate he knows where to lay his hand on the Millstone Grit.

It has been my wish to adapt it to the wants of teachers, and to make it as elementary and as concise as possible without omitting altogether any point that is important for the student to know; but I am afraid that I have not been equally fortunate in all the chapters.

I lay no claim to originality for any of the views expressed in it—indeed, originality would be quite out of

place in an elementary class-book ; but I have endeavoured to collect together the best founded opinions on those subjects which still form matter for discussion.

In the division of Volcanic Action into two distinct classes, I have followed Durocher and Baron Richthofen, as their views agree very closely with my own experience among volcanic districts in New Zealand ; but I have not thought it advisable at present to make relative age an element in the classification of eruptive, any more than in sedimentary, rocks.

I have purposely refrained from any description, or even mention, of the characteristic Fossils of the various periods, for this belongs to Palæontology and not to Geology ; and without a systematic study of Zoology and Botany, the knowledge of a few names of extinct animals and plants could lead to no possible good.

I have to thank my colleague, Professor Shand, for looking over and revising the propositions relating to Geological Surveying.

DUNEDIN, *April* 1874.

CONTENTS. .

	PAGE
INTRODUCTION,	9
Definition of Geology.	
CHAPTER I.	
GENERAL CONSIDERATIONS,	13
Cosmical Relations of the Earth—Composition of the Earth—Internal Temperature of the Earth—Division of the Rocks forming the Surface of the Earth.	
CHAPTER II.	
ROCK-FORMING MINERALS,	17
CHAPTER III.	
DENUDATION,	22
CHAPTER IV.	
FORMATION OF SEDIMENTARY ROCKS,	25
Formation of Sandstone and Slate—Intercalation of Beds—Change in the Lithological Character of Beds—Sedimentary Rocks originally horizontal—Formation of Limestone—Formation of Coal.	

	PAGE
CHAPTER V.	
METAMORPHISM,	33
Pseudomorphism — Consolidation — Metamorphism—Al- teration — Decomposition.	
CHAPTER VI.	
DESCRIPTION OF SEDIMENTARY ROCKS,	36
Inorganically-derived Rocks—Organically-derived Rocks.	
CHAPTER VII.	
POSITION OF STRATA,	42
CHAPTER VIII.	
VOLCANIC ACTION,	46
Paroxysmal Eruptions—Massive Eruptions.	
CHAPTER IX.	
DESCRIPTION OF ERUPTIVE ROCKS,	50
Siliceous Rocks—Felspathic Rocks—Pyroxenic Rocks— Older and Newer Eruptive Rocks—Determination of Eruptive Rocks.	
CHAPTER X.	
MODE OF OCCURRENCE OF THE OLDER ERUPTIVE ROCKS,	60
Contemporaneous Eruptive Rocks—Intrusive Eruptive Rocks.	
CHAPTER XI.	
STRUCTURE OF ROCK MASSES,	63
Joints—Faults—Cleavage—Slickensides.	

CONTENTS. vii

CHAPTER XII.

	PAGE
MOVEMENTS OF THE SURFACE OF THE EARTH, . . .	67
Sudden Movements—Slow Movements—Coral Islands— Internal Evidence—Course of the Movements.	

CHAPTER XIII.

PROOFS OF FORMER DENUDATION,	71
--	----

CHAPTER XIV.

EARTHQUAKES,	73
Earthquakes on Land—Earthquake Waves—Secondary Effects of Earthquakes—Distribution of Earthquakes.	

CHAPTER XV.

PALÆONTOLOGY,	80
Fossils—Imperfection of the Geological Record.	

CHAPTER XVI.

CHRONOLOGICAL CLASSIFICATION OF ROCKS, . . .	84
Sedimentary Rocks—Nomenclature—Eruptive Rocks.	

CHAPTER XVII.

PHYSIOGRAPHY,	91
Mountains—Valleys—Lakes—Plains—River Deposits.	

CHAPTER XVIII.

MINERAL VEINS,	97
Concretions—Non-metalliferous Veins—Metalliferous Veins—Kinds of Veins—Contents of Veins—Direc- tion of Veins—Origin of Veins—Filling of Veins— Age of Metals.	