# OUTLINES OF FIELD-GEOLOGY

Published @ 2017 Trieste Publishing Pty Ltd

#### ISBN 9780649665860

Outlines of Field-Geology by Archibald Geikie

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd. Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

## **ARCHIBALD GEIKIE**

# OUTLINES OF FIELD-GEOLOGY



## **OUTLINES**

OF

# FIELD-GEOLOGY.

ву

### ARCHIBALD GEIKIE, LL.D., F.R.S.,

Murchison Professor of Geriopy and Mineralogy in the University of Edinourgh, and Director of the Geological Survey of Scotland.

SECOND EDITION: REVISED AND ENLARGED.

• SEP 1879 .)

## Jondon:

MACMILLAN AND CO.

1879.

The Right of Translation Reserved.

 LONDON: B. CLAY, SONS, AND TAYLOR, BREAD STREET HILL, B.C.

#8

86

### PREFACE.

AT the request of the Lords of the Committee of Privy Council on Education I gave in the month of August, 1876, at South Kensington, two lectures upon geological maps and instruments of surveying. These lectures formed part of a series designed for teachers, and in illustration of the Loan Collection of Scientific Instruments at that time exhibited. Treating the subject allotted to me in what seemed likely to prove the most useful manner, I dwelt more specially upon the methods of observation requisite in ordinary fieldgeology; and endeavoured to show how by the practice of these methods geological maps and sections, representing in condensed form the facts established by field-work, could be constructed. The lectures were published in pamphlet form later in the autumn of the same year.

A large impression having been sold and the work having been for some time out of print, the publishers asked me to allow it to be reprinted in a more permanent shape. I delayed complying with this request until I could find leisure to revise and extend the lectures. I have now entirely recast them, and, dropping the original lecture form, have thrown the matter into chapters, with distinct headings. So great have been the additions that the little volume now issued may claim to be a new and independent work. It retains, however, the unpretending elementary character of the original lectures. My aim has been to write primarily for that large and increasing body of readers who have made some general acquaintance with geology, but who, though much interested in the subject, find themselves helpless when they try to interpret the facts which they meet with in the field. The practical knowledge of which they feel the want is not indeed to be gained from books. It must be sought in quarries and ravines, by hillside and seashore. But hints regarding what should be looked for and how to set about the search may not be without some usefulness. And these it is the object of the following pages to give.

The young geologist into whose hands this little book

may fall will therefore remember that it is not meant as a systematic text-book on geology. It presupposes him to have already read some such text-book, to have acquired a general knowledge of the scope of the science, and to have become in some measure familiar with the facts. Its purpose is to be suggestive to him, rather than didactic; to put him in the way of intelligently observing for himself, rather than to present him with what has already been discovered by others.

College, Edinburgh, February, 1879.



## CONTENTS

HAP.													PAGE
I.—INTRODUCTORY .	*	•	٠	::	36	*	•	٠			æ	*	3
PART I	-01	UT.	0,	F-Z	000	)R	H	01	K.				
II.—FIRST ESSAYS IN	FI	ELE	-w	OR	к.		30		÷	12	38	ŝ	10
HIACCOUTREMENT I	FOR	TI	HE	FU	ELD	Ĉ,	•	•	ী		*	<u>.</u>	18
IV.—GEOLOGICAL MAP	s.	•	8	ė	*	**	10	٠		3	Ť	<del>1</del> 55	31
V.—PRELIMINARY TR	AV	ER5	K5	ø	R 1	REC	ON	NA	188.	ANG	ES	() 3848	
CIRCUMSCRIBIN	IG (	CON	DI	TIC	NS	•	800	٠		٠	0	• 0	39
VI.—DETERMINATION	OF	RO	CK	5	•	90	e	(4)	38	15		•3	48
VII.—THE NATURE AND	o v	SR	OF	F	<b>OS5</b> 1	L5		4	्	•	(i)	<b>2</b> ()	70
FIII.—THE TRACING OF	O1	OL	og	CA	LI	gas	ND	AR	Y 1	.tn	KS	•	87
IX,-THE UNRAVELLE	so.	OF	G	EOI	Log	ICA	L	STI	tuc	TU	RE		
DIP, STRIKE, O	UT	CRO	P						4	٠		٠	94