HOME UNIVERSITY LIBRARY OF MODERNE KNOWLEDGE, NO. 54. THE MAKING OF THE EARTH

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649133895

Home university library of moderne knowledge, No. 54. The making of the earth by $\,$ J. W. Gregory

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

J. W. GREGORY

HOME UNIVERSITY LIBRARY OF MODERNE KNOWLEDGE, NO. 54. THE MAKING OF THE EARTH



OF MODERN KNOWLEDGE

No. 54

* Editors:

HERBERT FISHER, M.A., F.B.A.

PROP. GILBERT MURRAY, LITT, D.,

LL.D., F.B.A.

PROP. J. ARTHUR THOMSON, M.A.

PROP. WILLIAM T. BREWSTER, M.A.

THE HOME UNIVERSITY LIBRARY OF MODERN KNOWLEDGE

16mo cloth, 50 cents net, by mail 56 cents

SCIENCE

Already Published

| ANTHROPOLOGY By R. R. MARETT |
|--|
| AN INTRODUCTION TO |
| SCIENCE By J. ARTHUR THOMSON |
| EVOLUTION By J. ARTHUR THOMSON and |
| PATRICK GEDDES |
| THE ANIMAL WORLD By F. W. GAMBLE |
| INTRODUCTION TO MATHE- |
| MATICS By A. N. WHITEHEAD |
| ASTRONOMY By A. R. Hinks |
| PSYCHICAL RESEARCH By W. F. BARRETT |
| THE EVOLUTION OF PLANTS By D. H. Scott |
| CRIME AND INSANITY By C. A. MERCIER |
| MATTER AND ENERGY By F. Soddy |
| PSYCHOLOGY By W. McDougall |
| PRINCIPLES OF PHYSIOLOGY By J. G. McKendrick |
| THE MAKING OF THE EARTH By J. W. Gengory |
| ELECTRICITY By Gisbert Kapp |
| THE HUMAN BODY By A.KEITE |
| Future Issues |
| CHEMISTRY By R. MELDOLA |

THE MINERAL WORLD By SIR T. H. HOLLAND

THE MAKING OF THE EARTH

BY

J. W. GREGORY

F.R.S., D.SC.

PROFESSOR OF GEOLOGY AT THE UNIVERSITY OF GLASGOW; AUTHOR OF "THE GREAT RIFT VALLEY," "THE DEAD HEART OF AUSTRALIA," ETC.



NEW YORK
HENRY HOLT AND COMPANY
LONDON
WILLIAMS AND NORGATE

COPYRIGHT, 2912, BY HENRY HOLT AND COMPANY

REP. GEN. LIB. ACCESS. PO 397825

By F. Davis

GIF

THE UNIVERSITY PRESS, CAMBRIDGE, U.S.A.

EARTH SCIENCES LIBRARY

CONTENTS

PART I

| | THE ORIGIN OF THE EARTH |
|-------|--|
| CHAT. | PAGE |
| 1 | Introduction 9 |
| II | THE NEBULAR ORIGIN 15 |
| Ш | THE EVIDENCE OF ANCIENT CLIMATES 48 |
| | PART II |
| | THE GROWTH OF THE EARTH'S SURFACE |
| IV | THE FORMATION OF THE EARTH'S CRUST 58 |
| v | THE EVIDENCE OF EARTHQUAKES AS TO THE |
| | INTERNAL STRUCTURE OF THE EARTH 66 |
| VI | THE BENEFICENT INPLUENCE OF SEGREGATION . 75 |
| VII | THE UPLIFT OF THE LAND 96 |
| | PART III |
| | THE PLAN OF THE EARTH |
| VIII | THE INCONSTANCY OF OCEANS AND CONTINENTS 108 |
| IX | THE PLAN OF THE EARTH 128 |
| | M842816 |

| h | r | | ÷ |
|---|----|----|---|
| | 'n | ۲. | ı |

CONTENTS

| HAP. | PAGE |
|--|------|
| X THE DEFORMATION OF THE EARTH AND ITS | |
| Geological History | 101 |
| XI THE GEOGRAPHICAL ELEMENTS IN THE EXISTING | |
| CONTINENTS AND OCEANS | 190 |
| PART IV | |
| THE SHARE OF LIVE IN THE PREPARATION | |
| OF THE EARTH | |
| XII THE BIOSPHERE | 206 |
| CIII PROTORION - THE FIRST LIFE ON THE EARTH . | 214 |
| BIBLIOGRAPHY | 251 |
| INDEX | 255 |

LIST OF FIGURES.

| FIG. | |
|------------|---|
| 1. | PLANE OF ORBITS IN THE SOLAR SYSTEM |
| 2. | Position of the Great Nebula in Orion |
| 3. | POSITION OF THE GREAT NEBULA IN ANDROMEDA |
| 4. | THREE KINDS OF SPECTRA |
| 5. | EARTHQUAKE PATHS ALONG THE ARC AND CHORD |
| 6. | THE VARYING SPEEDS OF EARTHQUAKES THROUGH THE INTERIOR OF THE EARTH |
| 7. | THE INNER CORE OF THE EARTH AS INDICATED BY OLDHAM'S CALCULATIONS |
| 8. | NORMAL FAULTS |
| 9. | Reversed Faults |
| 10. | EARTH FOLDS |
| 11. | Lydekker's Classification of the Zoological Divisions, according to the Mammals |
| 12. | MAP OF THE DISTRIBUTION OF DIFROTODONT MARSUPIALS |
| 13.* | Map of the Distribution of Blind Snakes— Typhlopides |
| 14, | MAP OF THE DISTRIBUTION OF GECKOS |
| 15. | MAP OF THE DISTRIBUTION OF THE FROGS- |
| 16. | Map of the Distribution of the Butterflies—Acræidæ |
| 17. | Map of the Distribution of the Stag-Beetles— Lucanus |
| | |
| 18. | ANTIPODAL MAP OF THE WORLD |
| 18. 19. | |
| | A TETRAHEDRON |