

**NATURES SERIES.  
EXPERIMENTAL  
EVOLUTION: LECTURES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649579761

Natures Series. Experimental Evolution: Lectures by Henry de Varigny

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](http://www.triestepublishing.com)

**HENRY DE VARIGNY**

**NATURES SERIES.  
EXPERIMENTAL  
EVOLUTION: LECTURES**



Museum

QH

411

.V3



EXPERIMENTAL EVOLUTION



NATURE SERIES

EXPERIMENTAL  
EVOLUTION

LECTURES

DELIVERED IN THE  
"SUMMER SCHOOL OF ART AND SCIENCE"  
UNIVERSITY HALL, EDINBURGH (AUGUST, 1891)

BY

HENRY DE VARIGNY, D.Sc.

DEMONSTRATOR IN THE PARIS MUSEUM D'HISTOIRE NATURELLE, MEMBER OF THE  
SOCIÉTÉ DE BIOLOGIE



London

MACMILLAN AND CO.

AND NEW YORK

1892

*The Right of Translation and Reproduction is Reserved*

RICHARD CLAY AND SONS, LIMITED,  
LONDON AND BUNGAY





Museum  
4-27-1939

## PREFACE

THE following pages contain a record of lectures which I delivered in August, 1891, in Edinburgh, before the very cultivated and attentive audiences afforded by the *Summer School of Art and Science* which Professor Patrick Geddes is evolving with great expense of energy and devotion to science, aided by some personal friends whose interest he has well awakened in the organisation and diffusion of knowledge. I wish to be reckoned among these; and I took part with much pleasure in the proceedings, while on a visit to Edinburgh, Oxford, Cambridge, and London, where the French Government had commissioned me to investigate the University Extension Movement.

These lectures do not cover the whole ground of the subject: I have purposely given most attention to documents and facts of French origin, as they are certainly less familiar to an English audience, although the similar facts and documents of English origin are, if anything, more familiar

MS. 5.5.39  
2882

to myself, and also much more extensive in some lines. My desire has been more specially to show what should be done, in future, on behalf of the Evolution Theory, so that I may be excused if I have not gone entirely through the facts of the past ; and as I consider that experiment is now the only method of securing any further advance in solving the problems of organic evolution, I have wished to state the matter clearly, and to give some circulation to the statement in the country where this line of study has most followers.

And now I should ask of my readers to excuse such literary or grammatical defects as they may meet with in this volume. A foreigner can scarcely be expected to master all the niceties of the English language. However, my friends Prof. Patrick Geddes and J. A. Thomson having been kind enough to look over the proofs—and this I most sincerely thank them for—I feel the most important inelegancies or errors have been excluded, although English readers must doubtless perceive that the author is not writing in his native language.

H. DE V.

MONTMORENCY (SEINE ET OISE), FRANCE,  
*October 10th, 1891.*

# CONTENTS

## LECTURE I

	PAGE
The problem of the Living World—The three Hypotheses concerning it—General Statement of the Evolution-hypothesis—Gradual Growth of this Hypothesis, considered especially in French Literature : Claude Duret (1605) ; de Maillet (1749) ; Robinet (1766) ; Buffon (1761-6) ; Lamarck (1809) ; Geoffroy St. Hilaire, etc.—Naudin ( <i>Revue Horticole</i> , 1852) anticipates the Natural Selection Theory—General Proofs of Evolution : Palaeontological, Embryological, Morphological—These Proofs not absolutely conclusive—Direct Proof is wanted, and wanting—Nothing will suffice but the Transformation of one Species into another : Experimental Evolution necessary . . . . .	1

## LECTURE II

Experimental Evolution based on Three Groups of Facts—First Group : the Facts of Natural or Spontaneous Variation : Organisms are not rigid structures, but exhibit much plasticity. —Facts of Variation in Colour, correlated sometimes, and