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Alfred Russel Wallace

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Contributions to the Theory of Natural Selection

Alfred Russel Wallace (1823–1913) is regarded as the co-discoverer with Darwin of the theory of evolution. It was an essay which Wallace sent in 1858 to Darwin (to whom he had dedicated his most famous book, *The Malay Archipelago*) which impelled Darwin to publish an article on his own long-pondered theory simultaneously with that of Wallace. As a travelling naturalist and collector in the Far East and South America, Wallace already inclined towards the Lamarckian theory of transmutation of species, and his own researches convinced him of the reality of evolution. On the publication of *On the Origin of Species*, Wallace became one of its most prominent advocates. This second, corrected, edition (1871) of a series of essays published in book form in 1870, shows the development of his thinking about evolution, and emphasises his admiration for, and support of, Darwin's work. As he says in the Preface: 'I have felt all my life, and I still feel, the most sincere satisfaction that Mr Darwin had been at work long before me, and that it was not left for me to attempt to write *The Origin of Species*. I have long since measured my own strength, and know well that it would be quite unequal to the task. Far abler men than myself may confess, that they have not that untiring patience in accumulating, and that wonderful skill in using, large masses of facts of the most varied kind, that wide and accurate physiological knowledge, that acuteness in devising and skill in carrying out experiments, and that admirable style of composition, at once clear, persuasive and judicial – qualities which, in their harmonious combination mark out Mr Darwin as the man, perhaps of all men now living, best fitted for the great work he has undertaken and accomplished.'

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THE THEORY OF
NATURAL SELECTION.

A Series of Essays.

BY
ALFRED RUSSEL WALLACE,

AUTHOR OF
"THE MALAY ARCHIPELAGO," ETC., ETC.

SECOND EDITION, WITH CORRECTIONS AND ADDITIONS.

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PREFACE.

THE present volume consists of essays which I have contributed to various periodicals, or read before scientific societies during the last fifteen years, with others now printed for the first time. The two first of the series are printed without alteration, because, having gained me the reputation of being an independent originator of the theory of "natural selection," they may be considered to have some historical value. I have added to them one or two very short explanatory notes, and have given headings to subjects, to make them uniform with the rest of the book. The other essays have been carefully corrected, often considerably enlarged, and in some cases almost rewritten, so as to express more fully and more clearly the views which I hold at the present time; and as most of them originally appeared in publications which have a very limited circulation, I believe that the larger portion of this volume will be new to many of my friends and to most of my readers.

I now wish to say a few words on the reasons which have led me to publish this work. The second essay, especially when taken in connection with the first, contains an outline sketch of the theory of the origin of species (by means of what was afterwards termed by Mr. Darwin—"natural selection,") as conceived

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by me before I had the least notion of the scope and nature of Mr. Darwin's labours. They were published in a way not likely to attract the attention of any but working naturalists, and I feel sure that many who have heard of them, have never had the opportunity of ascertaining how much or how little they really contain. It therefore happens, that, while some writers give me more credit than I deserve, others may very naturally class me with Dr. Wells and Mr. Patrick Matthew, who, as Mr. Darwin has shown in the historical sketch given in the 4th and 5th Editions of the "Origin of Species," certainly propounded the fundamental principle of "natural selection" before himself, but who made no further use of that principle, and failed to see its wide and immensely important applications.

The present work will, I venture to think, prove, that I both saw at the time the value and scope of the law which I had discovered, and have since been able to apply it to some purpose in a few original lines of investigation. But here my claims cease. I have felt all my life, and I still feel, the most sincere satisfaction that Mr. Darwin had been at work long before me, and that it was not left for me to attempt to write "The Origin of Species." I have long since measured my own strength, and know well that it would be quite unequal to that task. Far abler men than myself may confess, that they have not that untiring patience in accumulating, and that wonderful skill in using, large masses of facts of the

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most varied kind,—that wide and accurate physiological knowledge,—that acuteness in devising and skill in carrying out experiments,—and that admirable style of composition, at once clear, persuasive and judicial,—qualities, which in their harmonious combination mark out Mr. Darwin as the man, perhaps of all men now living, best fitted for the great work he has undertaken and accomplished.

My own more limited powers have, it is true, enabled me now and then to seize on some conspicuous group of unappropriated facts, and to search out some generalization which might bring them under the reign of known law; but they are not suited to that more scientific and more laborious process of elaborate induction, which in Mr. Darwin's hands has led to such brilliant results.

Another reason which has led me to publish this volume at the present time is, that there are some important points on which I differ from Mr. Darwin, and I wish to put my opinions on record in an easily accessible form, before the publication of his new work, (already announced,) in which I believe most of these disputed questions will be fully discussed.

I will now give the date and mode of publication of each of the essays in this volume, as well as the amount of alteration they have undergone.

I.—ON THE LAW WHICH HAS REGULATED THE INTRODUCTION OF NEW SPECIES.

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Natural History," September, 1855. Reprinted without alteration of the text.

II.—ON THE TENDENCY OF VARIETIES TO DEPART INDEFINITELY FROM THE ORIGINAL TYPE.

First published in the "Journal of the Proceedings of the Linnæan Society," August, 1858. Reprinted without alteration of the text, except one or two grammatical emendations.

III.—MIMICRY AND OTHER PROTECTIVE RESEMBLANCES AMONG ANIMALS.

First published in the "Westminster Review," July, 1867. Reprinted with a few corrections and some important additions, among which I may especially mention Mr. Jenner Weir's observations and experiments on the colours of the caterpillars eaten or rejected by birds.

IV.—THE MALAYAN PAPILIONIDÆ, OR SWALLOW-TAILED BUTTERFLIES, AS ILLUSTRATIVE OF THE THEORY OF NATURAL SELECTION.

First published in the "Transactions of the Linnæan Society," Vol. XXV. (read March, 1864), under the title, "On the Phenomena of Variation and Geographical Distribution, as illustrated by the Papilionidæ of the Malayan Region."

The introductory part of this essay is now reprinted, omitting tables, references to plates, &c., with some additions, and several corrections. Owing to the publi-

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cation of Dr. Felder's "Voyage of the Novara" (Lepidoptera) in the interval between the reading of my paper and its publication, several of my new species must have their names changed for those given to them by Dr. Felder, and this will explain the want of agreement in some cases between the names used in this volume and those of the original paper.

V.—ON INSTINCT IN MAN AND ANIMALS.

Not previously published.

VI.—THE PHILOSOPHY OF BIRDS' NESTS.

First published in the "Intellectual Observer," July, 1867. Reprinted with considerable emendations and additions.

VII.—A THEORY OF BIRDS' NESTS ;

SHOWING THE RELATION OF CERTAIN DIFFERENCES OF COLOUR IN BIRDS TO THEIR MODE OF NIDIFICATION.

First published in the "Journal of Travel and Natural History" (No. 2), 1868. Now reprinted with considerable emendations and additions, by which I have endeavoured more clearly to express, and more fully to illustrate, my meaning in those parts which have been misunderstood by my critics.

VIII.—CREATION BY LAW.

First published in the "Quarterly Journal of Science," October, 1867. Now reprinted with a few alterations and additions.

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IX.—THE DEVELOPMENT OF HUMAN RACES UNDER
THE LAW OF NATURAL SELECTION.

First published in the “Anthropological Review,” May, 1864. Now reprinted with a few important alterations and additions. I had intended to have considerably extended this essay, but on attempting it I found that I should probably weaken the effect without adding much to the argument. I have therefore preferred to leave it as it was first written, with the exception of a few ill-considered passages which never fully expressed my meaning. As it now stands, I believe it contains the enunciation of an important truth.

X.—THE LIMITS OF NATURAL SELECTION AS APPLIED
TO MAN.

This is the further development of a few sentences at the end of an article on “Geological Time and the Origin of Species,” which appeared in the “Quarterly Review,” for April, 1869. I have here ventured to touch on a class of problems which are usually considered to be beyond the boundaries of science, but which, I believe, will one day be brought within her domain.

For the convenience of those who are acquainted with any of my essays in their original form, I subjoin references to the more important additions and alterations now made to them.

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ORIGINALLY PUBLISHED.*

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PREFACE TO THE SECOND EDITION.

THE flattering reception of my *Essays* by the public and the press having led to a second edition being called for within a year of its first publication, I have taken the opportunity to make a few necessary corrections. I have also added a few passages to the 6th and 7th *Essays*, and have given two notes, explanatory of some portions of the last chapter which appear to have been not always understood. These additions are as follows:—

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