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THE EVOLUTION OF CHARLES DARWIN
THE EVOLUTION OF CHARLES DARWIN

By

GEORGE A. DORSEY

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Printed in Great Britain by Phoebus Press Limited, Epping, Essex.
To the memory of Sir Francis, third son of Charles and Emma Darwin, whose editing of his father's letters makes it possible to understand the evolution of one of the greatest and noblest characters that ever lived.
Mr. Darwin’s character was chiefly marked by a certain grand and cheerful simplicity, strangely and beautifully united with a deep and thoughtful wisdom, which, together with his illimitable kindness to others and complete forgetfulness of himself, made a combination as lovable as it was venerable. . . . No man ever passed away leaving behind him a greater void of enmity, or a depth of adoring friendship more profound.

— Romanes

None have fought better, and none have been more fortunate, than Charles Darwin. He found a great truth trodden underfoot, reviled by bigots, and ridiculed by all the world; he lived long enough to see it, chiefly by his own efforts, irrefragably established in science, inseparably incorporated with the common thoughts of men, and only hated and feared by those who would revile, but dare not. What shall a man desire more than this?

— Huxley

As an explanation of evolution Darwin’s ideas still hold the field to-day, and subsequent work has necessitated less modification of them than of those of his contemporaries in physics and chemistry. Just as physiology has found no case of interference with the order of nature as revealed by physics and chemistry, the study of evolution has brought to light no principle which cannot be observed in the experience of ordinary life and successfully submitted to the analysis of reason.

— J. B. S. Haldane
DARWIN came to manhood as a failure and for the remainder of his life struggled against illness, yet conceivably no one more benefited mankind and revolutionized human thought, or lived a more exemplary life. How was this possible? How could he so triumph over weak human nature as to make his life a pattern of serenity and his work an ideal of scientific endeavor? Darwin himself could not have answered, for he did not understand himself; but he did open the door to life, and made such an understanding possible.

To understand Darwin is to understand human beings. That must be my justification for this book—an attempt to describe a unique personality as seen through the door he opened to all who have eyes to see and whose vision is not narrowed by prejudice or restricted by convention. When that ever-increasing army of observers has ceased to observe, life's secrets will have been bared and death will have lost its sting.

There were no secrets in Darwin's life. The material available for observing the evolution of his personality is enormous. His own published letters fill several volumes, and his published works exceed seven thousand pages. To these must be added an extraordinary...
narily valuable autobiographical sketch which he prepared for his family when he sensed the interest that would inevitably be directed toward him after death. Books about Darwin and his works fill libraries. Those which I have drawn upon freely and to which I am especially indebted, in addition to Darwin's own works, are:

*The Life and Letters of Charles Darwin.* Edited by his son, Francis Darwin. 2 vols.
*A Century of Family Letters.* Edited by his wife, Emma Darwin. 2 vols.
*Life and Letters of Thomas Henry Huxley.* By his son, Leonard Huxley. 2 vols.
*Charles Darwin and the Origin of Species.* By Edward Bagnall Poulton.
*Charles Darwin.* Memorial Notices reprinted from *Nature.*

While the lines I have used from these books may not always be quoted with literal exactness, none, I believe, distorts the meaning of the author.

I am also greatly indebted to Sir Arthur Keith and to Major Leonard Darwin, son of Charles Darwin, for valued suggestions and advice.

George A. Dorsey.

New York City,
January, 1927.
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OUTLINE OF CHARLES DARWIN'S LIFE*

1809 Feb. 12th: Born at Shrewsbury.
1817 Death of his mother.
1818 Went to Shrewsbury School.
1825 Left Shrewsbury School.
1826 Oct.: Went to Edinburgh University. Read two papers before the Plinian Society of Edinburgh "at the close of 1826 or early in 1827."
1827 Entered at Christ's College, Cambridge.
1828 Began residence at Cambridge.
1831 Jan.: Passed his examination for B.A., and kept the two following terms.
   Aug.: Geological tour with Sedgwick.
   Sept. 11th: Went to Plymouth to see the Beagle.
   Oct. 2d: "Took leave of my home."
   Dec. 27th: "Sailed from England on our circumnavigation."
1832 Jan. 16th: "First landed on a tropical shore" [Santiago].
1833 Dec. 6th: "Sailed for last time from Rio Plata."
1834 June 10th: "Sailed for last time from Tierra del Fuego."
1835 Sept. 5th: "Sailed from west shores of South America."
   Nov. 16th: Letters to Professor Henslow, read at a meeting of the Cambridge Philosophical Society.
   Nov. 18th: Paper read before the Geological Society on Notes made during a Survey of the East and West Coasts of South America in years 1832–35.
1836 May 31st: Anchored at the Cape of Good Hope.
   Oct. 2d: Anchored at Falmouth.
   Oct. 4th: Reached Shrewsbury after an absence of five years and two days.

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1836

1837
Jan. 4th: Paper on Recent Elevation in Chili read.
Mar. 13th: Settled at 36 Great Marlborough Street.
May: Read papers on Coral Formation, and on the Pampas to the Geological Society.
July: Opened first notebook on Transmutation of Species.
March 13th to Nov.: Occupied with his Journal.

Working at Geology of South America.
Nov. 1st: Read the paper on Earthworms before the Geological Society.

1838
Worked at the Geology of South America and Zoology of Voyage. "Some little species theory."
March 7th: Read paper on the Connexion of certain Volcanic Phenomena and on the Formation of Mountain Chains, to the Geological Society.
May: Health began to break down.
June 23rd: Started for Glen Roy. The paper on Glen Roy was written in August and September.
Oct. 5th: Began Coral paper.
Nov. 11th: Engaged to be married to his cousin, Emma Wedgwood.
Dec. 31st: "Entered 12 Upper Gower Street."

1839
Jan. 29th: Married at Maer.
Feb. and March: Some work on Corals and on Species Theory.
March (part) and April: Working at Coral paper.

Papers on a Rock seen on an Iceberg, and on the Parallel Roads of Glen Roy.
Published Journal and Remarks, being Vol. III of the Narrative of the Surveying Voyages of H.M.S. Adventure and Beagle, etc.

For the rest of the year, Corals and Zoology of the Voyage.
Publication of the Zoology of the Voyage of H.M.S. Beagle, Part II (Mammalia).

1840
Worked at Corals and the Zoology of the Voyage.
Contributed Geological introduction to Part I of the Zoology of the Voyage.
APPENDIX I

1841 Publication of Part III of the *Zoology of the Voyage* (Birds).
Read paper on Boulders and Glacial Deposits of South America, to the Geological Society.
Published paper on a remarkable bar of Sandstone off Pernambuco, on the coast of Brazil.
Publication of Part IV of *Zoology of the Voyage* (Fish).

June: Examined Glacier action in Wales.
"Wrote pencil sketch of my Species Theory."
July: Wrote paper on Glaciers of Caernarvonshire.
Oct.: Began paper on Volcanic Islands.

1843 Working at *Volcanic Islands* and "some Species work."

1844 Feb. 13th: Finished *Volcanic Islands*.
July to Sept.: Wrote an enlarged version of Species Theory.
Papers on *Sagitta*, and on *Planaria*.


1846 Oct. 1st: Finished last proof of *Geological Observations on South America*.
Papers on Atlantic Dust, and on Geology of Falkland Islands, communicated to the Geological Society.
Paper on *Arthrobalanus*.

1847 Working at Cirripedae.
Review of Waterhouse's *Natural History of the Mammalia*.

Working at Cirripedae.
Paper on Erratic Boulders.

1849 Health especially bad.
Working at Cirripedae.
March to June: Water-cure at Malvern.

1850 Working at Cirripedae.

1852 Working at Cirripedae.
1853 Nov. 30th: "Royal Medal given to me."

1854 Published Monographs on Recent and on Fossil Balanidæ and Verrucide.

Sept. 9th: Finished packing up all my Cirripedes. "Began sorting notes for Species Theory."

1855 March-April: Experiments on the effect of salt water on seeds.

Papers on Icebergs and on Vitality of Seeds.

1856 May 14th: "Began, by Lyell's advice, writing Species Sketch."

Dec. 16th: Finished Chap. III.


1857 Sept. 29th: Finished Chapters VII and VIII.

Sept. 30th to Dec. 29th: Working on Hybridism.

Paper on the Agency of Bees in the Fertilisation of Papilionaceous Flowers.

1858 March 9th: "Finished Instinct chapter."

June 18th: Received Mr. Wallace's sketch of his evolutionary theory.

July 1st: Joint paper of Darwin and Wallace read at the Linnaean Society.

July 20th to July 27th: "Began Abstract of Species book," i.e., the Origin of Species, at Sandown, I. W.

Paper on Bees and Fertilisation of Flowers.

1859 May 25th: Began proof sheets of the Origin of Species.

Nov. 24th: Publication of the Origin: 1,250 copies printed.

Oct. 2d to Dec. 9th: At the water-cure establishment, Ilkley, Yorkshire.

1860 Jan. 7th: Publication of Edit. II of Origin (3,000 copies).

Jan. 9th: "Looking over MS. on Variation."

Paper on the Fertilisation of British Orchids.

July and again in Sept.: Made observations on Drosera.

Paper on Moths and Flowers.

Publication of A Naturalist's Voyage.

1861 Up to July at work on Variation under Domestication.

April 30th: Publication of Edit. III of Origin (2,000 copies).

July to the end of year, at work, on Orchids.

Nov.: Primula paper read at Linnaean Society.

Papers on Pumilio and on Fertilisation of Vinca.
Working at Variation.
Paper on Catasetum (Linnaean Society).
Contribution to Chapter III of Jenyns’ Memoir of Henslow.

1863 Working at Variation under Domestication.
Papers on Yellow Rain, the Pampas, and on Cirripedes.
A review of Bates’s paper on Mimetic Butterflies.
Severe illness to the end of year.

1864 Illness continued until April.
Paper on Linum published by the Linnaean Society.
Work on Variation under Domestication.
Nov. 30th: Copley medal awarded to him.

1865 Jan. 1st: Continued at work on Variation until April 22d.
The work was interrupted by illness until late in the autumn.
Feb.: Read paper on Climbing Plants.
Dec. 25th: Began again on Variation.

1866 Continued work at Variation under Domestication.
March 1st to May 10th: At work on Edit. IV of the Origin.
Published June (1,250 copies).
Read paper on Cytisus scoparius to the Linnaean Society.
Dec. 22d: Began the last Chapter of Variation under Domestication.

1867 Nov. 15th: Finished revises of Variation under Domestication.
Dec.: Began papers on Illegitimate Unions of Dimorphic and Trimorphic Plants, and on Primula.

1868 Jan. 30th: Publication of Variation under Domestication.
Feb. 4th: Began work on Man.
Read papers on Illegitimate Unions of Dimorphic and Trimorphic Plants, and on Verbascum.

1869 Feb. 10th: “Finished fifth edition of Origin; has taken me forty-six days.” Edit. V. published in May.
Working at the Descent of Man.
1869 Papers on the Fertilisation of Orchids, and on the Fertilisation of Winter-flowering Plants.

1870 Working at the Descent of Man.
Paper on the Pampas Woodpecker.

1871 Jan. 17th: Began the Expression of the Emotions.
Feb. 24th: Descent of Man published (2,500 copies).
April 27th: Finished the rough copy of Expression.
June 18th: Began Edit. VI of Origin.
Paper on the Fertilisation of Leschenaultia.

1872 Jan. 10th: Finished proofs of Edit. VI of the Origin, and "again rewriting Expression."
Aug. 22d: Finished last proofs of Expression.
Aug. 23d: Began working at Drosera.
Nov.: Expression published (7,000 copies, and 2,000 more printed at the end of the year).
Nov. 8th: "At Murray's sale 5,267 copies sold to London booksellers."

1873 Jan.: Correcting the Climbing Plants paper for publication as a book.
Feb. 3d: At work on Cross-fertilisation.
June 14th: "Began Drosera again."
Nov. 20th: Began Descent of Man, Edit. II.

1874 Descent of Man, Edit. II, in one volume, published (Preface dated September).
Coral Reefs, Edit. II, published.
April 1st: Began Insectivorous Plants.
Feb. to May: Contributed notes to Nature.

1875 July 2d: Insectivorous Plants published (3,000 copies); 2,700 copies sold immediately.
July 6th: "Correcting 2d edit. of Variation under Domestication." It was published in the autumn.
Sept. 1st (approximately): Began on Cross and Self-Fertilisation.
Nov.: Vivisection Commission.

1876 May 5th: "Finished MS., first time over, of Cross and Self-Fertilisation."
May–June: Correction of Fertilisation of Orchids, Edit. II.
Wrote his Autobiographical Sketch.
May and Nov.: Contributions to Nature.
1876  Aug. 18th: First proofs of *Cross and Self-Fertilisation*.
Nov. 10th: *Cross and Self-Fertilisation* published (1,500 copies).

1877  "All the early part of summer at work on *Different Forms of Flowers*.
July: Publication of *Different Forms of Flowers* (1,250 copies).
During the rest of the year at work on the bloom on leaves, movements of plants, "and a little on worms."
Nov.: LL.D. at Cambridge.
Second edition of *Fertilisation of Orchids* published.
Contributions to *Nature*, *Gardeners' Chronicle*, and *Mind*.

1878  The whole year at work on movements of plants, and on the bloom on leaves.
May: Contribution to *Nature*.
Second edition of *Different Forms of Flowers*.
Wrote prefatory letter to Kerner's *Flowers and Their Unbidden Guests*.

1879  The whole year at work on movements of plants, except for "about six weeks" in the spring and early summer given to the *Life of Erasmus Darwin*, which was published in the autumn.
Contributions to *Nature*.

1880  "All spring finishing MS. of *Power of Movement in Plants* and proof sheets."
"Began in autumn on Worms."
Prefatory notice written for Meldola's translation of Weismann's book.
Nov. 6th: 1,500 copies of *Power of Movement* sold at Murray's sale.
Contributions to *Nature*.

1881  During all the early part of the year at work on the "Worm book." Several contributions to *Nature*.
Oct. 10th: The book on *Earthworms* published: 2,000 copies sold at once.
Nov.: At work on the action of carbonate of ammonia on plants.

1882  No entries in the Diary.
Feb.: At work correcting the sixth thousand of the *Earthworms*. 
1882 Mar. 6th and Mar. 16th: Papers on the action of Carbonate of Ammonia on roots, etc., read at the Linnæan Society.
April 6th: Note to *Nature* on Dispersal of Bivalves.
April 18th: Van Dyck's paper on Syrian Dogs, with a preliminary notice by Charles Darwin, read before the Zoological Society.
April 19th: Charles Darwin died at Down.
APPENDIX II

LIST OF WORKS BY CHARLES DARWIN*


Journal of Researches into the Natural History and Geology of the Countries Visited during the Voyage of H.M.S. Beagle round the World, under the Command of Capt. Fitz-Roy, R.N. 2d edition, corrected, with additions. 8vo. London, 1845. (Colonial and Home Library.)

A Naturalist’s Voyage. Journal of Researches, etc. 8vo. London, 1860. (Contains a postscript dated Feb. 1, 1860.)


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A Monograph of the Fossil Lepadidæ; or Pedunculated Cirripedes of Great Britain. 4to. London, 1851. (Palæontographical Society.)

A Monograph of the Sub-class Cirripedia, with Figures of All the Species. The Lepadidæ; or, Pedunculated Cirripedes. 8vo. London, 1851. (Ray Society.)

—The Balanidæ (or Sessile Cirripedes); the Verrucidæ, etc. 8vo. London, 1854. (Ray Society.)

A Monograph of the Fossil Balanidæ and Verrucidæ of Great Britain. 4to. London, 1854. (Palæontographical Society.)


—Third edition, with additions and corrections. (Seventh thousand.) 8vo. London, 1861. (Dated March, 1861.)

—Fourth edition, with additions and corrections. (Eighth thousand.) 8vo. London, 1866. (Dated June, 1866.)

—Fifth edition, with additions and corrections. (Tenth thousand.) 8vo. London, 1869. (Dated May, 1869.)

—Sixth edition, with additions and corrections to 1872. (Twenty-fourth thousand.) 8vo. London, 1872. (Dated Jan., 1872.)

On the Various Contrivances by which Orchids Are Fertilised by Insects. 8vo. London, 1862.


The Variation of Animals and Plants under Domestication. 2 vols. 8vo. London, 1868.


APPENDIX II


Insectivorous Plants. 8vo. London, 1875.

The Effects of Cross and Self Fertilisation in the Vegetable Kingdom. 8vo. London, 1876.

The Different Forms of Flowers on Plants of the Same Species. 8vo. London, 1877.


The Formation of Vegetable Mould, through the Action of Worms, with Observations on Their Habits. 8vo. London, 1881.

LIST OF SCIENTIFIC PAPERS, ETC.

Letters to Professor Henslow, read at the meeting of the Cambridge Philosophical Society, Nov. 16, 1835.

Geological Notes Made during a Survey of the East and West Coasts of South America in the Years 1832, 1833, 1834, and 1835; with an Account of a Transverse Section of the Cordilleras of the Andes between Valparaiso and Mendoza.

Notes upon the Rhea Americana. 1837.

Observations of Proofs of Recent Elevation on the Coast of Chile, Made during the Survey of H.M.S. Beagle. 1838.

A Sketch of the Deposits Containing Extinct Mammalia in the Neighbourhood of the Plata. 1838.

On Certain Areas of Elevation and Subsidence in the Pacific and Indian Oceans, as Deduced from the Study of Coral Formations. 1838.

On the Formation of Mould. 1838.


Origin of Saliferous Deposits. Salt Lakes of Patagonia and La Plata. 1838.

Note on a Rock Seen on an Iceberg in 16° South Latitude. 1839.

On a Remarkable Bar of Sandstone off Pernambuco, on the Coast of Brazil. 1841.

On the Distribution of the Erratic Boulders and on the Contemporaneous Unstratified Deposits of South America. 1842.

Notes on the Effects Produced by the Ancient Glaciers of Caernarvonshire, and on the Boulders Transported by Floating Ice. 1842.


Brief Descriptions of Several Terrestrial Planariae. 1844.

An Account of the Fine Dust which Often Falls on Vessels in the Atlantic Ocean. 1846.

On the Geology of the Falkland Islands. 1846.

On the Transportal of Erratic Boulders from a Lower to a Higher Level. 1848.

On British Fossil Lepadidæ. 1850.

Analogy of the Structure of Some Volcanic Rocks with that of Glaciers. 1851.

On the Power of Icebergs to Make Rectilinear, Uniformly Directed Grooves across a Submarine Undulatory Surface. 1855.

Vitality of Seeds. 1855.


On the Agency of Bees in the Fertilisation of Papilionaceous Flowers. 1857.

On the Tendency of Species to Form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection. By Darwin and Wallace. 1859. (Read July 1, 1858.)

On the Agency of Bees in the Fertilisation of Papilionaceous Flowers, and on the Crossing of Kidney Beans. 1858.

Do the Tineina or Other Small Moths Suck Flowers, and If So What Flowers? 1860.

Note on the Achenia of Pumilio Argyrolepis. 1861.

Fertilisation of Vincas. 1861.

On the Two Forms, or Dimorphic Condition, in the Species of Primula, and On Their Remarkable Sexual Relations. 1862.

On the Three Remarkable Sexual Forms of Catasetum tridentatum. 1862.

Yellow Rain. 1863.
On the Thickness of the Pampean Formation near Buenos Ayres. 1863.

On the So-called "Auditory-sac" of Cirripedes. 1863.

On the Existence of Two Forms, and On Their Reciprocal Sexual Relation, in Several Species of the genus Linum. 1864.

On the Sexual Relations of the Three Forms of Lythrum salicaria. 1865.

On the Movement and Habits of Climbing Plants. 1867.

Notes on the Fertilization of Orchids. 1869.

On the Character and Hybrid-like Nature of the Offspring from the Illegitimate Unions of Dimorphic and Trimorphic Plants. 1869.

Note on the Habits of the Pampas Woodpecker. 1870.

Fertilisation of Leschenaultia. 1871.

The Fertilisation of Winter-flowering Plants. 1869.

Pangenesis. 1871.

Inherited Instinct. 1873.

Perception in the Lower Animals. 1873.

Origin of Certain Instincts. 1873.

Habits of Ants. 1873.

On the Males and Complemental Males of Certain Cirripedes, and on Rudimentary Structures. 1873.

Recent Researches on Termites and Honey-bees. 1874.

Fertilisation of the Fumariaceae. 1874.

Flowers of the Primrose Destroyed by Birds. 1874.

Cherry Blossoms. 1876.

Sexual Selection in Relation to Monkeys. 1876.

The Scarcity of Holly Berries and Bees. 1877.

Note on Fertilization of Plants. 1877.

A Biographical Sketch of an Infant. 1877.

Transplantation of Shells. 1878.

Rats and Water-Casks. 1879.

Fertility of Hybrids from the Common and Chinese Goose. 1880.

The Sexual Colours of Certain Butterflies. 1880.

Sir Wyville Thomson and Natural Selection. 1880.

The Omori Shell Mounds. 1880.

Black Sheep. 1880.

 Movements of Plants. 1881.

The Movements of Leaves. 1881.

Inheritance. 1881.
Leaves Injured at Night by Free Radiation. 1881.
The Parasitic Habits of Molothrus. 1881.
On the Dispersal of Freshwater Bivalves. 1882.
The Action of Carbonate of Ammonia on the Roots of Certain Plants. 1882.
The Action of Carbonate of Ammonia on Chlorophyll-Bodies. 1882.
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