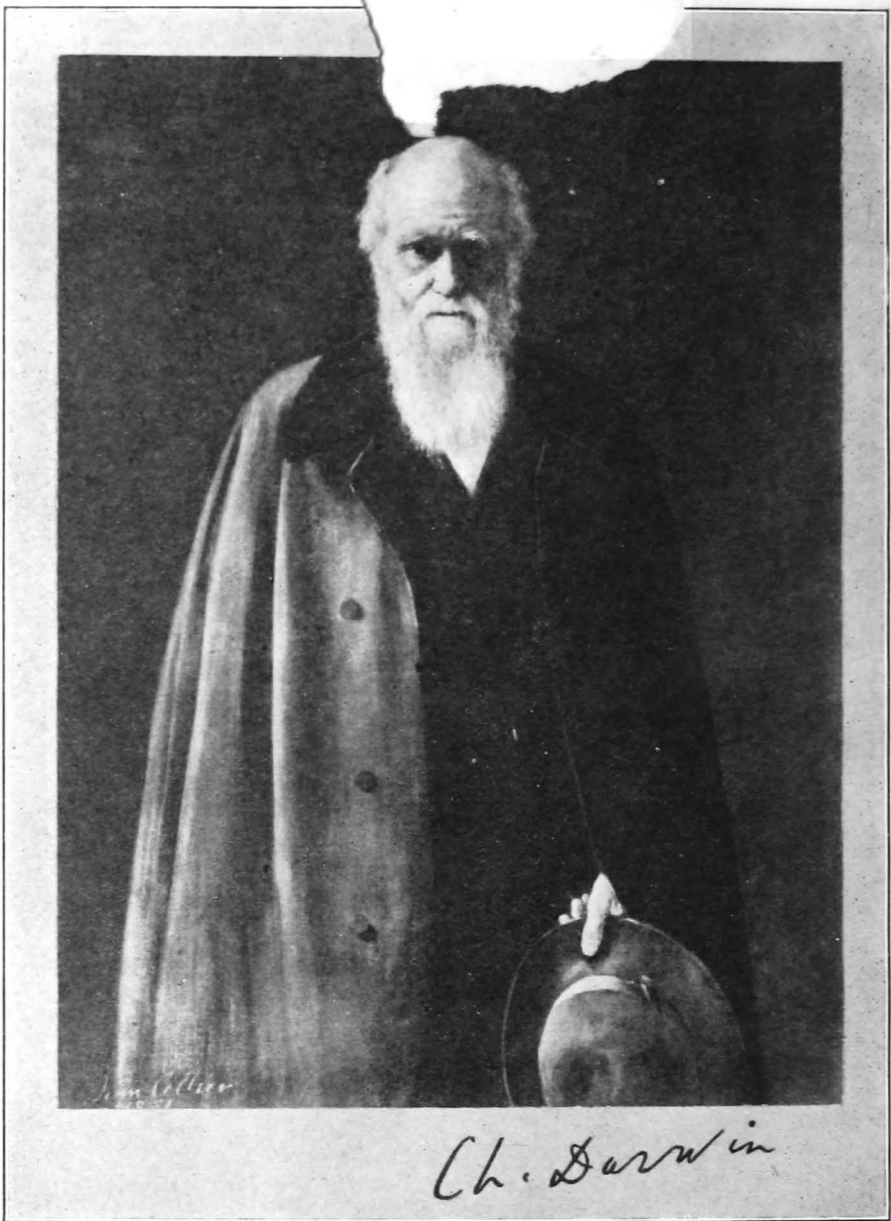


A PICTURE BOOK  
OF EVOLUTION



CHARLES DARWIN  
From a painting by Hon. John Collier  
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# A PICTURE BOOK OF EVOLUTION

ADAPTED FROM THE WORK OF THE LATE  
DENNIS HIRD, M.A.

BY

SURGEON REAR-ADMIRAL  
C. M. BEADNELL  
C.B., K.H.P., M.R.C.S.(ENG).

*Fellow of the Zoological Society and Member of the  
British Astronomical Association, Late Fellow of the Chemical Society  
and of the Royal Anthropological Institute*

WITH A FOREWORD BY

SIR ARTHUR KEITH,  
M.D., D.Sc., LL.D., F.R.C.S., F.R.S.

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## FOREWORD

By SIR ARTHUR KEITH, M.D., F.R.S.

**M**Y friend Surgeon Rear-Admiral C. M. Beadnell has asked me to write the Foreword for this book. He is under the impression that my name is better known than his to the reading public. If this is so, then it is time that this impression should be altered. Naval surgeon by profession, Rear-Admiral Beadnell has been known to many of us for a long time as an able student of evolutionary problems. In bringing up to date, and indeed in rewriting, many chapters of the well-known work by the late Mr. Dennis Hird he has rendered a real service to the Cause of Evolution.

He and I believe in Evolution, not as a theoretical doctrine, but as a practical way of looking at all manifestations of life—of politics, of history, of all that pertains to the physical universe. The reader may ask: Is there anyone to-day who does not believe in Evolution? If readers will look into their real beliefs, they will probably find that, although they accept Darwinism as truth, they think of it as a doctrine that was true in past times, but has in these modern days ceased to be operative. They are really not convinced evolutionists; they do not realize that the law of Evolution is going on in them and around them, shaping human destiny during every hour of the day. Most of us are willing to render Charles Darwin a lip service, but only few of us realize that every thought we formulate and every act we perform or fail to perform alter to an appreciable degree the course of events—the course which Evolution is taking in human affairs. We often boast of modern progress, forgetting that progress is in most cases merely another name for Evolution.

The main aim of this book is to bring home to its readers that Evolution is not only a theoretical doctrine, but is also a practical issue. Hence the instances selected to illustrate the truth of Darwin's teaching have been chosen from common things—things with which all are familiar—in the streets, homes, and waysides of this goodly earth of ours and in the star-

spangled heavens above. The examples chosen have been of a kind that permit the illustrator's art free scope, and help readers to understand how potent and prevailing is the law of Evolution. This book itself, in the form now given to it, has undergone a true revolutionary metamorphosis; Rear-Admiral Beadnell has adapted it to meet modern needs, and has thus rendered a service to all—both young and old, who are interested in the Cause of Evolution.

ARTHUR KEITH.

*June, 1947.*

## PREFACE TO THIRD EDITION

BY THE COMPILER

ABOUT a quarter of a century ago the present writer was one of a London audience attending a course of Lantern Lectures upon the absorbingly interesting subject of Evolution delivered by that fascinating and popular lecturer, Dennis Hird, M.A., Principal of Ruskin College, Oxford. The appreciative reception, both in London and the provinces, accorded Mr. Hird's lectures made obvious the desirability of issuing them in book form. This was carried out by Messrs. Watts and Co., and the success of the first edition of Hird's *Picture Book of Evolution* soon rendered necessary the appearance of a second. As Mr. Hird died in 1920, a continued demand for the work has not, until the present issue, met with response. When Messrs. Watts asked me to undertake the task of revising the book, I confess to having had serious misgivings as to my competency to do so, in view of the enormous strides taken by Science in its several branches during the last two decades. Shortly after commencing the work it became apparent, both to the Publishers and myself, that revision in the ordinary sense was impracticable, and that if the book was to rank as an up-to-date illustrated statement of the ever-urgent message of Evolution it would have to be entirely recast. To such a degree has this had to be effected that the *Picture Book of Evolution* has now become not unlike that woodman's axe that was successively fitted with a new blade and a new haft. All the chapters have been re-written, and an Index, Appendices, and many modern pictures and illustrations have been added, though, wherever expedient, the pictures chosen by Mr. Hird have been retained. But the woodman's axe, despite its renewal, was still, in a sense, the old and trusty implement of its owner; and so likewise this book still preserves that individuality which was imparted to it by the hand of Dennis Hird.

I take this opportunity to express thanks to the Publishers' Staff for much generous help in connection with the book.

Lastly I must mention my indebtedness to my wife for the constant assistance she has given me throughout in the checking of the proof-sheets and the preparation of the Index.

CHARLES M. BEADNELL.

*Old Stacks, Ringwood, Hants.*

*May, 1932.*



## PREFACE TO FOURTH EDITION

BY THE COMPILER

THE call for a further edition of this book is evidence of the unflagging interest taken by the intelligent section of the public in the great truths of Evolution, whether these pertain to man or ape, to animals or plants, to extra-galactic universes, stars and planets, to crude matter and radiant energy, or to molecules, atoms, and sub-atoms.

It has seemed to me that, in a book carrying the title this does, the "picture" is a most important component and that it should convey to the reader something more than the name and general appearance of the animal or other object depicted. With this end in view most of the captions have been considerably amplified.

So great have been the strides of Science in its advance that ever since the last issue of the *Picture Book of Evolution* startling and revolutionary discoveries have been made, more especially in the behaviour and structure of such macroscopic systems as our own Milky Way and other colossal systems outside it, and of such ultra-microscopic systems as lie "beyond the atom." This has necessitated a certain amount of revision as well as the addition of a considerable quantity of fresh material.

I feel confident that the late Mr. Dennis Hird would have warmly welcomed the incorporation of these further proofs of Evolution in the *Picture Book*. Whatever merits the two editions of this work that have passed through my hands may possess, the credit for the conception and creation of the book must be given to Dennis Hird; he laid its firm foundations, modelled and built up the greater portion of the edifice; my function has been to add a few rooms and modernize the whole building.

CHARLES M. BEADNELL.

*Wayside, Steep, Petersfield, Hants.*

*June, 1947.*

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