

Cambridge University Press
978-1-107-64599-8 - Life: A Book for Elementary Students
Sir Arthur E. Shipley
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L I F E

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A Sycamore tree, *Acer pseudo-platanus*, in full foliage, showing the enormous number of leaves. After Irving.

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L I F E

A Book for Elementary Students

BY

SIR ARTHUR E. SHIPLEY

G.B.E., F.R.S.

MASTER OF CHRIST'S COLLEGE
CAMBRIDGE

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C A M B R I D G E

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I. F. F.

A. D. H.

C. F. A. P.

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FAVTOBIBVS ATQVE ADIVTOBIBVS
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GRATO ANIMO

A. E. S.

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P R E F A C E

A YEAR ago the University Press asked me to write a book which would make students of elementary Biology think. I do not know in the least whether I have succeeded in doing so. The average schoolboy, especially at the age when he usually begins to study Biology, is strongly of the opinion that "thinking is but an idle waste of thought," and with few exceptions he turns away from the advice of one of the wisest and worldliest of our teachers. "Of all the truths do not decline that of thinking. The host of mankind can hardly be said to think," as Lord Chesterfield wrote to his son.

What I have tried to do in this book is to emphasize the unity of life, whether it be plant-life or animal-life, and the interrelation of living organisms one with another and with their surroundings. The crayfish with its *scaphognathites* and *dactylopodites*, and the fresh-water mussel with its *ctenidia* and its *osphradia* do not live self-contained lives tucked away in water-tight compartments. They are in intimate relation with the whole world of other plants and animals and with their physical surroundings. The dead dogfish in a dissecting dish gives one but little idea of what it did and of what happened to it when it was alive. I have tried to bring out the fact that plants and animals are at one in being alive, and I have tried to make clear the intimate association of both with their environment, whether it be the air or the soil or the sea. The whole of life is so interwoven and interconnected that the "type-system," however well it may teach us the rudiments of Anatomy, gives a totally inadequate representation of life.

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PREFACE

It is easier to examine live plants in a laboratory than live animals. They are easier to rear. They reproduce as a rule more quickly and more continuously and they require much less attention. Further, all the older Universities of Europe and many of our Schools have Botanical Gardens, but I have never come across a University or a School which has an adequate Zoological Garden.

The only really difficult part of this book is that dealing with the alternation of generations in plants. But it is such a wonderful illustration of evolution and its whole story is so romantic that I have ventured to give a short sketch of its progress from the simplest seaweeds to the highest flowering plants, a sketch far too condensed. Here at least the student may require the aid and explanations of a teacher.

Finally I venture to hope that this book will be not without interest to the public that is not preparing for examinations, and thank heaven that public is still in the great majority!

A. E. SHIPLEY.

CHRIST'S COLLEGE LODGE, CAMBRIDGE.
 17th November, 1923.

PREFACE TO THE SECOND EDITION

There are comparatively few alterations in this new edition of "Life." A few crooked paths have been straightened out, but the most important alteration is the re-writing of page 36. In the first edition the account of the connexion between chlorophyll and haemoglobin was not accurate.

I have also incorporated a more modern view of the function of the contractile vacuole.

For many of the corrections I am indebted to my friends Mr J. Barcroft, F.R.S. of King's College and Mr C. F. A. Pantin of the Marine Biological Laboratory, Plymouth.

A. E. S.

CHRIST'S COLLEGE LODGE.
 4th February, 1925.

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