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When she was elected a Fellow of the Royal Society in 1946, Agnes Arber (1879–1960) was one of only three women to have been admitted into the institution. Arber conducted research that focused mainly on the morphology of flowering plants, but her work is characterised by its explorations of historical botany and evolution. First published in 1950, this book widens the scope of morphology into a study of all aspects of form across the whole chronology of botany. Arber begins with Aristotle and investigates the work of early modern botanists such as Bacon and Goethe, before examining the effects of this wider approach on subjects such as evolution and taxonomy. Arguing that post-Darwinian doctrine often causes botanists to twist their observations to suit a hypothetical history of phylogenesis, rather than changing the hypothesis to suit observational facts, this bold and fascinating text will interest students of biology and philosophy alike.

Cambridge University Press

978-1-108-04505-6 - The Natural Philosophy of Plant Form

Agnes Arber

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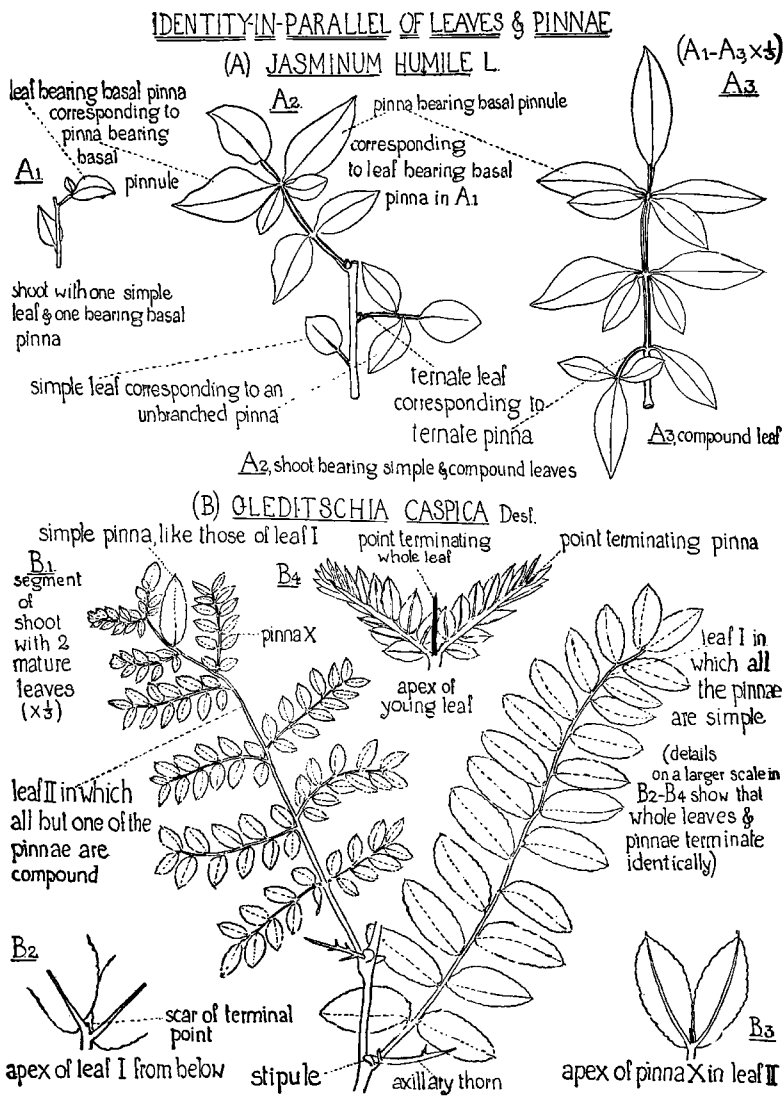
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BY

AGNES ARBER

M.A., D.Sc., F.R.S., F.L.S.

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PREFACE

IN the present study I have tried to express certain general ideas, which have gradually disengaged themselves in my mind, in the course of a lifetime's concern with the morphology of flowering plants, both as it is understood to-day, and in its historical development from the time of Aristotle onwards. I began by thinking of this subject quite simply as a branch of natural science, but I have come finally to feel that it reaches its fullest reality in the region of natural philosophy, where it converges upon metaphysics, to which it brings its own, distinctively visual, contribution. In this book I have made a tentative and provisional attempt to review the relations of parts in the flowering plants in the light of those more universal, and also more stringent, modes of thought, which are characteristic of philosophy rather than of biology. There are indications that, when morphology is subjected to this discipline, its content may be unified by the synthesis of various theories that are, from the standpoint of analytical science, irreconcilable. The thread running through the following pages is thus a belief in the vital necessity of a linkage between morphological and philosophic thought.

This small treatise is the upshot of so many years that a *catalogue raisonné* of those to whom I have owed practical help or intellectual stimulus would expand this preface into an autobiography; so I must content myself with recording how deeply beholden I am to the generous comradeship of fellow-workers, above all when this has taken the form of enlightening criticism.

To my daughter, Muriel, I dedicate this book, in the consciousness of its having come into being on the background of our unending talks about "why things are, and that sort of thing".

AGNES ARBER

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I AM indebted to the Editor of *Biological Reviews* for permission to incorporate in this book parts of two articles of mine, which appeared in his journal. I have also to express my gratitude to the following publishers and editors, who have allowed me to quote from translations from the classics, for which they are responsible: the Clarendon Press, for certain passages from D'Arcy W. Thompson, *Historia animalium*, and W. Ogle, *De partibus animalium*—both in the Oxford translation of the Works of Aristotle; the Editors of the Loeb Classical Library, and Messrs W. Heinemann Ltd., for citations from W. S. Hett, *Aristotle on the Soul*, and A. Hort, *Theophrastus, Enquiry into Plants*; and Messrs Longmans Green and Co. Ltd., for an extract from W. Ogle, *Aristotle on Youth and Old Age*. In addition, I wish to thank Dr Robert E. Dengler, Professor of Classics, the Pennsylvania State College, for his kindness in letting me cite his version of the *De Causis Plantarum* of Theophrastus.

I desire also to acknowledge with gratitude the expert guidance and the invariable patience of the staff of the Cambridge University Press.

A. A.

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