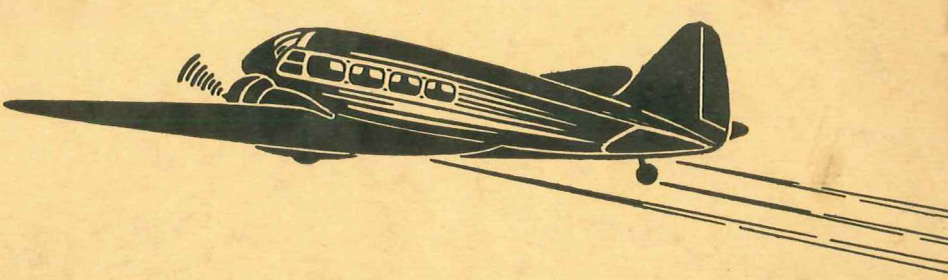
AERONAUTICS



HANDBOOK OF THE COLLECTIONS ILLUSTRATING HEAVIER-THAN-AIR AIRCRAFT

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HANDBOOK OF THE COLLECTIONS ILLUSTRATING AERONAUTICS—I HEAVIER-THAN-AIR AIRCRAFT

A BRIEF OUTLINE OF THE HISTORY AND DEVELOPMENT OF MECHANICAL FLIGHT WITH REFERENCE TO THE NATIONAL AERONAUTICAL COLLECTION, AND A CATALOGUE OF THE EXHIBITS

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PREFACE

THE formation of a Museum of Science was first proposed by the Prince Consort after the Great Exhibition in 1851, and in 1857 collections illustrating foods, animal products, examples of structures and building materials, and educational apparatus, were brought together and placed on exhibition in South Kensington. Subsequently many additions were made, including, in 1884 the collection of machinery formed by the Commissioners of Patents, in 1900 the Maudslay Collection of machine tools and marine engine models, and in 1903 the Bennet Woodcroft Collection of engine models and portraits.

Until 1899 the Art Collections and the Science and Engineering Collections together formed the South Kensington Museum, but in that year the name was changed to the Victoria and Albert Museum, which included both Collections until 1909, when it was restricted to the Art Collections ; those relating to Science and Technical Industry have since then formed the Science Museum.

The aim of the Science Museum, with its Collections and Science Library, is to aid in the study of scientific and technical development, and to illustrate the applications of physical science to technical industry. This is effected by the informative display of objects, diagrams and photographs—so arranged as to illustrate in each Section the development which has taken place from past to modern practice.

Many of the exhibits are so arranged that they can be operated by visitors or demonstrated to them. Others have been sectioned so that the internal structure can be clearly seen. A detailed descriptive label is placed by each object.

The National Aeronautical Collection is of comparatively recent origin, but it already contains many objects of great historical interest as well as a large number of the most recent types, the whole forming a very comprehensive representation of the growth and present standing of aviation and aerostation.

CONTENTS

LIST OF ILLUSTRATIONS

INTRODUCTION

THIS publication is intended to serve as an introduction to the study of the history and development of aeronautics (heavier-than-air aircraft) with special reference to that section of the National Aeronautical Collection at the Science Museum which has been formed to illustrate this branch of technology. The aim is to indicate the most important stages in the evolution of mechanical flight by providing a brief account of the early speculations and experimental work which led to the invention of the aeroplane and its subsequent development. An endeavour has been made to include in this outline of the history all the outstanding events which influenced development, but the omission of any particular record of achievement must not be taken to imply that it is considered to be of little value, but rather it has been of lesser importance. The various published works on aeronautics supply a great deal of important matter which has necessarily to be excluded from what is merely a brief survey of the subject. A list of some of these works, which are available in the Science Library and have been consulted, will be found at the end of the book. This account of experiment and research is, of course, in no way confined to that which is represented in the Aeronautical Collection ; though it will be seen from the catalogue of exhibits that much of the historical apparatus is included or illustrated there.

* * * *

Navigation in the air naturally presents greater difficulties than navigation on water or transport on land. The accomplishment by man of sustained flight in a power-driven aeroplane—first achieved by Wilbur and Orville Wright—did not take place until 1903. The duration of the first flight was 12 seconds at a few feet above the ground, and it was made at a ground speed of about 10 miles an hour. At the time of writing flights of some two days' duration have been made and an altitude of 47,360 feet has been recorded, while a speed of about 440 miles an hour has been attained. The history of the rapid development of the aeroplane, which has made these performances possible, is one of exceptional interest, if only as the precursor of a further stage of development which may well revolutionize all ideas of transport.

The Handbooks of the Collections illustrating Lighter-than-air Aircraft (Part II) and the Propulsion of Aircraft (Part III) form, with this publication, a comprehensive survey of the history and development of aeronautics with reference to the exhibits at the Science Museum.