## NELSON'S AEROSCIENCE MANUALS



First published February 1944 Reprinted 1944

## PREFACE

The secret of Britain's triumph in the air war is not this or that piece of equipment. The ultimate secret lies in the way we have organized our energy. We have fashioned a shield against enemy attack and a truly terrible sword to destroy his vital centres. We have mastered this new and highly technical weapon, and the spirit with which it is wielded is the product of careful selection and deliberate training.

The object of this book is to assist in the understanding of this double creation—the sword and the spirit. For something quite new has come into existence : a body of men, young, adventurous, disciplined, and technically trained. They are applying the subtlest and most intricate devices of modern science to warfare. They are not at all like the dare-devils of Hollywood's imagination. It is better to think of them as young technicians, compelled by the enormous difficulty of their task to act as scientists act—to trust their instruments rather than their instincts, to work in a team, and draw upon collective knowledge rather than depend on purely individual opinions. As a result they have already developed a tradition, an outlook on life, a code of conduct.

A book about operational flying written in war-time must contain many omissions. There are changes in tactics and modifications to aircraft that occur even between the writing and the publication. To take one example, since writing this book information has been released to the Press about the Pathfinder Force which I was unable to make use of at the time. It is therefore necessary to warn the reader that a few of the things described may not correspond to present practice.

To bring into being a large force with such magnificent morale and to use it to the utmost advantage is an even greater

## PREFACE

achievement than the invention of a new material weapon. The spirit of the Royal Air Force cannot be placed in a War Museum. Yet it is more of an instrument of victory than the bits and pieces, the guns and bombs and aircraft, which will one day be viewed. It must at some stage receive serious study, for a vast body of men with technical knowledge and a very definite temper of mind will have to be absorbed into civil life. The new world will be all the braver if the qualities they have shown in war are organized in a creative peace.

November 1943

H. H.

vi

## CONTENTS

AN OPERATION IS ORDERED.				$\mathbf{P}$		1
THE BOMBER IN ACTION .						15
Organization and Planning	a.		÷	÷		28
MONOTONY AND MORALE .	9	÷.	4			43
Science fights Strain .	÷.	Â.	4		÷	56
PROBLEMS OF THE PILOT .	4	4	4		÷.	72
THE MAN BEHIND THE GUNS					4	89
WHEN THINGS GO WRONG .	÷.					106
AIR INTELLIGENCE						121
How the R.A.F. works .	÷.		÷			140
	The Bomber in Action . Organization and Planning Monotony and Morale . Science fights Strain . Problems of the Pilot . The Man behind the Guns When Things go Wrong . Air Intelligence How the R.A.F. works .	The Bomber in Action.Organization and Planning.Monotony and Morale.Science fights Strain.Problems of the Pilot.The Man behind the Guns.When Things go Wrong.Air Intelligence.How the R.A.F. works.	THE BOMBER IN ACTION.ORGANIZATION AND PLANNING.MONOTONY AND MORALE.SCIENCE FIGHTS STRAIN.PROBLEMS OF THE PILOT.THE MAN BEHIND THE GUNS.WHEN THINGS GO WRONG.AIR INTELLIGENCE.How THE R.A.F. WORKS.	The Bomber in Action . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .	THE BOMBER IN ACTION . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .	AN OPERATION IS ORDERED