

Afterburner

Book Reviews

LIGHTER THAN AIR

The Life and Times of Wing Commander N F Usborne RN, Pioneer of Naval Aviation

By G Warner

Pen & Sword Aviation, Pen & Sword Books, 47 Church Street, Barnsley, S Yorkshire S70 2AS, UK. 2016. 310pp. Illustrated. £25. ISBN 978-1-47382-902-2.

Neville Usborne was one of a number of career officers from both the Military and Naval wings of the Royal Flying Corps who decided to fly airships rather than aeroplanes. Joining the Royal Navy as a cadet in 1897, he became interested in aeronautics and, in 1910, was involved in the ill-fated attempt to build a rigid airship (*Mayfly*) for the Royal Navy. Regarded highly by Cdr E A D Masterman for his work on this project, he was appointed Captain Designate of the new craft despite having no experience of flying airships.

Later, he trained as an airship pilot at Farnborough and went on to become a leading light in the Airship Section of the Royal Naval Air Service. In 1915 he was appointed Commanding Officer of Kingsnorth Airship Station on the Medway and played a large part in the development of the first Submarine Scout and Coastal airships that made a vital contribution to the war against the German U-boats. It was while test flying one of his later experimental prototypes that he was killed on 21 February 1916.

This well-researched book sets out to describe the career of Neville Usborne and place his story into the context of contemporary aeronautical history. As a result, Usborne's career tends to be



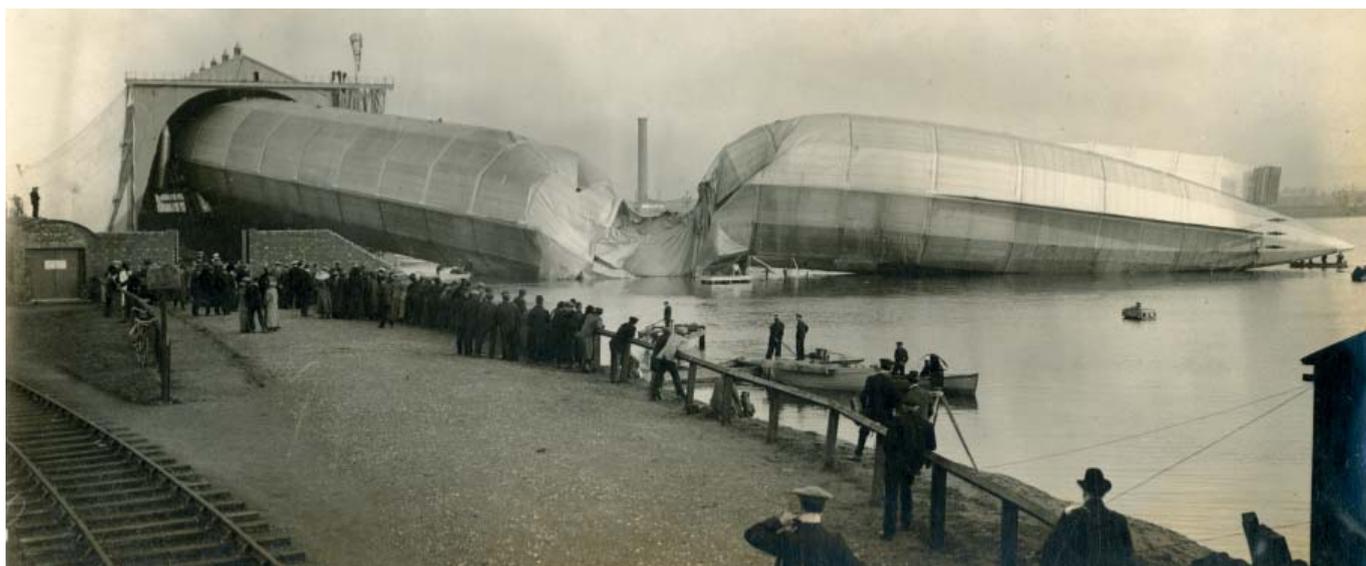
Above: SS14 at Kingsnorth Airship Station on the Isle of Grain, 23 March 1917.

Below: Airship No1, Mayfly, after it broke its back while being winched out of its shed on 24 September 1911 without ever flying. RAeS (NAL).

subsumed somewhat into the bigger historical narrative. However, the detailed historical background story is well told and useful for anyone who is not familiar with general lighter-than-air history. The book is generally well produced, except with regard to the photographs which, as with many books on airships, are reproduced far too small and are often of poor quality.

Had he lived, Neville Usborne, like many of his contemporaries in the airship service, would undoubtedly have gone on to enjoy an illustrious career in the RAF. This book pays a belated tribute to an innovative talent whose loss was keenly felt by the service and by those who knew him.

Brian J Turpin
MRAeS



EISENHOWER AT THE DAWN OF THE SPACE AGE

Sputnik, Rockets, and Helping Hands

By M Shanahan

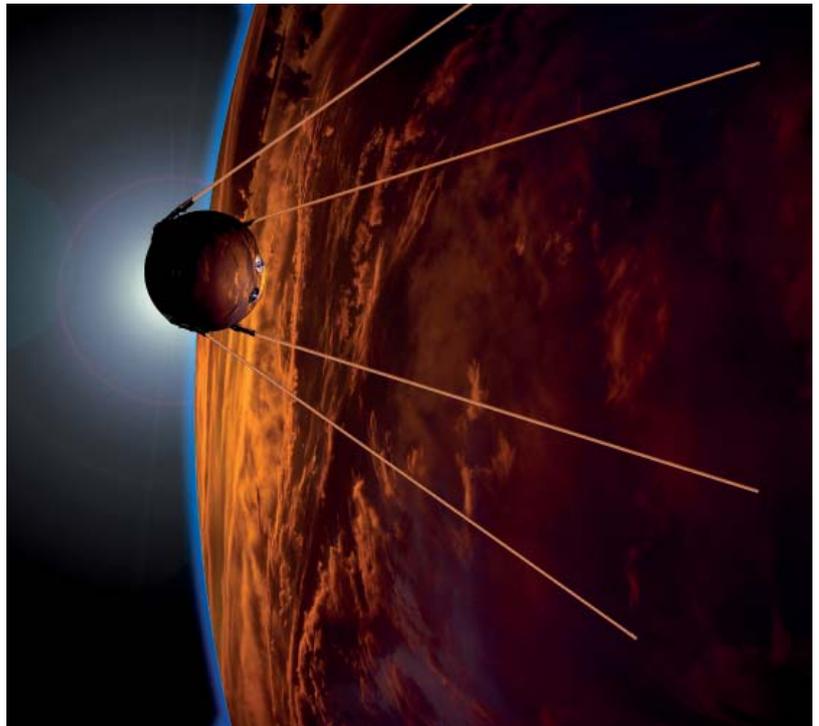
Lexington Books, Lanham, MD. 2017. Distributed by Rowman & Littlefield, 10 Thornbury Road, Plymouth, Devon PL6 7PP, UK. 207pp. £54.95. ISBN 978-1-4985-2814-6.

For most of the Cold War period it was taken for granted that America's space programme had been triggered by the Soviet launch of Sputnik-1 in 1957. US politicians, media and public were aghast at the apparent lead that the Soviets had in long range rocket technology. This lead was apparently confirmed when, less than three years later, the Soviets placed the first human in space – Yuri Gagarin. The accepted story continued with America's fight back first with its own robotic satellites, then the gallant Mercury astronauts and, finally the first humans on the Moon.

Shanahan sets out to correct this version of history. President Eisenhower had initiated a US space programme two years before Sputnik involving a secret spy satellite programme called CORONA. He initiated a civilian programme at the same time to disguise the military activities, the civilian initiative being badged as part of America's contribution to the 1957 International Geophysical Year. The US space programmes that emerged in the late 1950s and early 1960s were perceived by the public and the media as primarily a reaction to the Soviet space successes rather than as a part of a longer-term strategy. Eisenhower (and later Presidents) chose not to reveal the existence of the CORONA and related initiatives that would have corrected this impression.

The early chapters provide extensive evidence of the erroneous view of history as written from the 1960s to the 1990s, although the detail Shanahan provides will be mainly of interest to other historians. His review of the media and political reaction to Sputnik is also quite detailed and will be of more general interest. He shows that the public concern about Sputnik was quickly allayed by Eisenhower's reaction in the months that followed – a calm and cool reaction that assured the public that the US was militarily well-prepared.

Shanahan also corrects an often-cited reluctance by Eisenhower to create a civilian agency to lead US space activities – NASA. He shows that Eisenhower had set in train a process that led to the emergence of NASA as the logical organisation for the job. This subtle but strategic approach of Eisenhower's is an example of his use of a 'hidden hand' mentioned in the book's subtitle. Eisenhower was against very expensive prestige



Artist's impression of Sputnik 1 in orbit. Gregory R Todd.

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space programmes, such as the proposed follow-ons to the Mercury human spaceflight missions but he supported the creation of NASA to manage whatever civilian space programmes were approved.

The main flaw in the book is the author's failure to acknowledge the work of post-Cold War historians in relating this revised version of history. In the 1990s the secrets of the CORONA spy satellites were gradually revealed, making clear the existence of the US pre-Sputnik space activities including the political reasoning that underpinned them. Authors such as Jeffrey Richelson, David T Lindgren, Dwayne Day, Robert A McDonald and L Parker Temple III are just some of those who have covered the early years of the space age in the US with full recognition of the catalytic role played by the need for high-altitude military surveillance. Shanahan seems unfamiliar with these sources perhaps because they are historians of the technology and programmes rather than general historians. His failure to acknowledge these writers mars what is otherwise a readable account of the 1957-1960 emergence of US space programmes.

Pat Norris

FRAeS

Author of *Spies in the Sky*

THE ART OF FLIGHT



By J Watkinson

American Institute of Aeronautics and Astronautics, Reston, VA. 2016. Distributed by Transatlantic Publishers Group, 97 Greenham Road London N10 1LN, UK. 437pp. Illustrated. £87. [20% discount available to RAeS members on request; E mark. chaloner@tpgltd.co.uk T +44 (0)20 8815 5994] ISBN978-1-62410-372-8.

In the preface, the author explains that this book is an attempt to bridge the gap between books about flight for the general public and those aimed at the professionals. The gap arises because the gross simplifications contained in books from the first category do not provide the skills to allow the general reader to interpret professional publications. To address this gap, the author sets out to provide a qualitative understanding of the underlying principles without engaging in gross oversimplification.

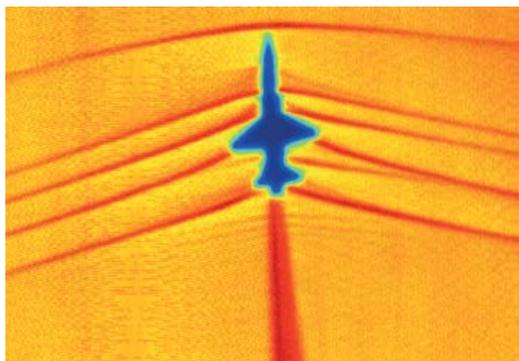
Along the way a number of dragons of erroneous concepts are slain, including the commonly repeated explanation that the generation of lift is based on Bernoulli's equation. Instead the author offers a clear and almost totally qualitative description of circulation and its role in the generation of lift.

The scope of the book is far reaching and, as well as covering aerodynamics, includes chapters on propulsion, flight instruments, control and performance. There is also a chapter on the helicopter and another on surface effect craft. Throughout the book there are frequent references to real aircraft to illustrate practical applications of

the described processes. Not all of the chapters are as comprehensive as the one on aerodynamics, with the chapter on power plants being little more than a general overview of the principles behind piston and gas turbine engines.

Overall the book achieves its aim of providing correct and thorough qualitative explanations for a number of important processes, but I wonder whether all of the descriptions would be readily understandable by its target audience. An initial chapter on technical background is extensive but understandably brief on some topics which would probably leave some readers wanting more explanation. However, I could imagine many undergraduate engineers would appreciate and benefit from reading the qualitative descriptions as a supplement to their more mathematical-orientated studies.

Peter Render
MRAeS



Above: British Airways Boeing 747-400 arriving at London Heathrow Airport in 2015. Adrian Pingstone.

Below left: A Schlieren image of shock waves created by a T-38C in supersonic flight captured using the Sun's edge as a light source and then processed using NASA-developed code. NASA.

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