This book considers the interplay between naval and air power, from the inception of the latter at the beginning of the 20th century up until the end of WW2. This is not merely a theoretical work, as it places heavy emphasis on the practical implementation and realities, doing so by considering the background geostrategic context and the actions of the main players, notably Britain, the US, Japan and Italy, as well as, to a lesser extent, Austria-Hungary, Turkey and Russia.

The first chapter of the book considers the period up to the end of WW1. This was a time when the realities between the envisaged use of air power in the maritime sphere and its technological limitations were perhaps most starkly in contrast. Even that envisaged use was a matter of debate, as the place of aviation, alongside the similar recent advent of submarines, began to challenge traditional notions of naval power, in particular, that of a decisive battle involving fleets of battleships. The chapter also considers the impact on guerre de course and highlights the early developments in aircraft carriers, as the realities of providing air power over the wide expanses of the globe became clear.

The second chapter develops these lines of thought into the interwar years and considers their later legacy. Despite the lack of the impetus of a major global conflict in the early years, aviation technology advanced and air power proponents, such as Billy Mitchell in the US and Giulio Douhet in Italy, continued to press its case. Conversely, navies were considering what this meant for their battleships, against a background of naval arms limitation treaties, both in terms of perceived improvements in shipborne air defence systems and how carrier borne air power could function in both defensive and offensive roles. These issues all came into sharper focus as the threat of war became more apparent during the 1930s and some consideration is also given to command and control of maritime air power, principally in a UK context.

The next chapter, the largest in the book, examines how all these issues ultimately played out during key moments of WW2. The ultimate test of combat quickly highlighted those tactics and technologies that were successful, while equally flushing out those that were not, often with disastrous consequences. The challenges of replicating at sea the kind of integrated air defence system that was so crucial to the defence of mainland Britain in 1940 is crucial. The relative importance of battleships and aircraft carriers is also considered and both the sinking of Bismarck and Yamato are considered, among other case studies. Recognising the critical dependence navies have on shore facilities and the vulnerabilities of ships at such bases, maritime air power’s role at Taranto and Pearl Harbor is also covered.

The final chapter considers the contribution of maritime air power to maintaining sea lines of communication. The bulk of this focuses on the Battle of the Atlantic, where continuing improvements in tactics, technology and successes in code-breaking on both sides were most evident. However, consideration is also given to air power’s role to the situation in the Caribbean, the convoys to Russia and the strategic failure of Imperial Japan to suitably prioritise the protection of its merchant shipping which was so critical to maintaining its war effort.

While this book draws heavily on secondary sources, many of which are themselves required reading for anyone with a serious interest in maritime air power, I cannot readily think of a volume that covers this important period for this subject in a such a manageable way, given the large changes in technology, military thinking and the geostrategic situation that occurred. The way it contrasts the different approaches the main powers took when considering maritime air power is a particular strength and likely to be the main appeal of this book to those more familiar with the subject matter.

Ultimately, a very readable and thought-provoking volume that I can easily recommend, not only to those with an interest in maritime air power, but also to those who want to understand how aviation has shaped naval power more widely, setting in train much of the basis of the approach that has remained since.

Lt Cdr Richard Gearing  
CEng FRAeS RN
Daredevil Divas Who First Took to the Sky

By S Wright


Balloonomania Belles documents the lives and ascents of some 25 airwomen with greater attention to their collective achievements than any other recent history. Sharon Wright portrays these women with tact and sympathy without losing sight of the comedy and hubris often accompanying their endeavours.

As with many areas of life, women had to do the same job twice as well as men in order to escape opprobrium and be taken seriously. When they ascended with men to whom they were not married, innuendo prevailed in the reporting. Wright's 'belles' understood both the odds against them and the quirks in their favour when planning their flights. Letitia Sage dressed carefully and timed her appearance to maximum effect when she became the first British woman to ascend in a hot air balloon in 1784.

Gradually, from being trophies for the first generation of male aeronauts (Lunardi and Zambeccari competed to carry the first female into the air), some women began to make a living from flying. Margaret Graham, who married a professional balloonist but ended up more famous than him, supported nine children with her ascents, often flying while pregnant.

Wright's account is very readable and, though not in a scholarly format, is convincingly based on archival sources. The enterprising women whose names are merely grazed upon in more general histories of flight – Sophie Blanchard, Margaret Graham, Gertrude Bacon – here receive their due, with an evaluation that stretches to their subsequent careers. Wright also includes many far lesser known women who flew, or attempted to fly, in the long 19th century. This allows for a greater understanding of the possibilities that ballooning and parachuting represented: liberation, financial independence or a rare chance for a public profile.

Often it is the failures or disasters that do most to reveal contemporary attitudes, and Wright draws extensively on press accounts and letters to this end. She has cast her net wide, to produce an admirable chronicle of female engagement with the technology and culture of early flight.

Lily Ford

Top: Watercolour by Georgiana Keate of 'Mr Biggin and Mrs Sage ascending from St Georges Fields in Lunardis Balloon 29 June 1785' that is a more historically accurate representation of the first flight of a British woman to ascend into the air than the lithograph, above, of which the NAL holds the rare colour version, as Lunardi had to withdraw from the balloon flight due to weight concerns. RAeS (NAL).

Above left: Poster print of Sophie Blanchard in balloon ascent, Milan. RAeS (NAL).
Above: The cockpit configuration for Airbus’ A220 enables pilots to fly its two versions – the A220-100 and its longer-fuselage A220-300 variant – with the same type rating, facilitating the family’s addition to an airline’s fleet.

“The [ATS] must manage national boundaries, language and cultural differences, operate in all weather conditions and climates, and provide unprecedented levels of safety for fatalities, injuries and property damage in a complex and ever-changing economic, social, political and technological environment” (p 341).

Handbook of Human Factors in Air Transportation Systems edited by Associate Professor Dr Steven Landry is an ambitious book. It has two aims. First, to provide an engaging guide to the air transportation system (ATS). Secondly, to explore the systems and human factors aspects of the ATS. To these ends the book consists of no fewer than 17 chapters plus a Preface. Topics covered range from the systems and human factors aspects of flight-deck design to the nature and operation of airline safety management systems (SMSs).

Contributing authors include such luminaries as the Federal Aviation Administration’s Dr Kathy Abbott and Griffith University’s Professor Sidney Dekker. The contributors create a detailed description of one of the world’s most complex, impactful and successful socio-technical systems. Lance Sherry’s description of the nature and operation of the ATS merits reproduction:

I learned something from each of the book’s 395 pages. I recommend it

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