J R Coll Physicians Edinb 2013; 43:185
http://dx.doi.org/10.4997/JRCPE.2013.219

Aviation medicine

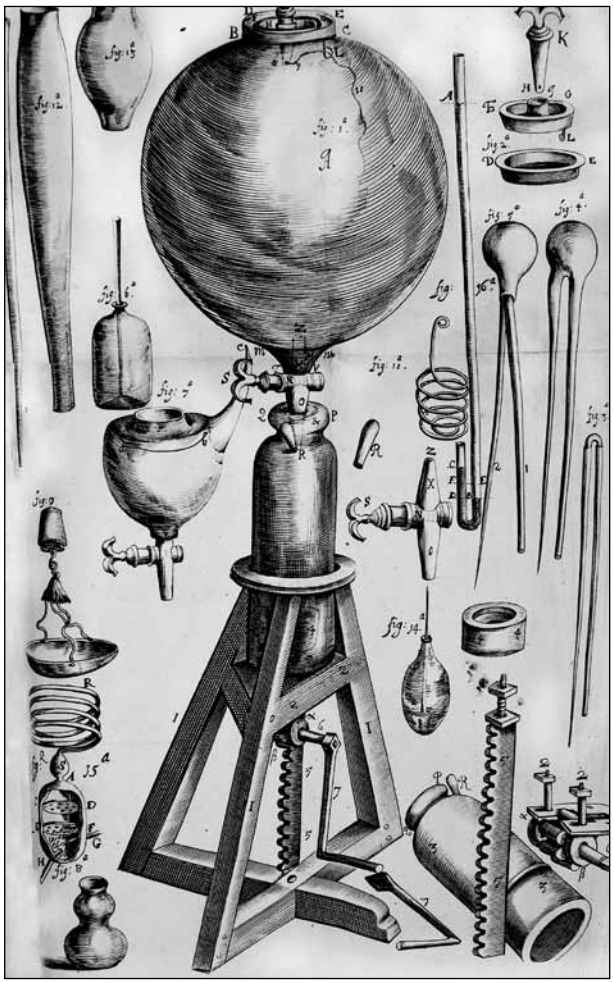


FIGURE 1 A 'pneumatic engine' from Boyle's *New Experiments.* Oxford: H Hall; 1662.

The scope of the Sibbald Library was evident again when we prepared an exhibition to accompany the Aviation Medicine Symposium held in the College on 1 March 2013.

The first exhibited work was the second, 1662 edition of Robert Boyle's (1627–91) *New experiments physico-mechanical, touching the spring of the air, and its effects, made for the most part, in a new pneumatical engine.* The illustration shows Boyle's 'pneumatic engine' constructed for him by Robert Hooke (1635–1703) (Figure 1). Boyle used it to illustrate the functions of the air, its elasticity and weight. Boyle's experiments clearly demonstrated that air is essential to life.

James Bell Pettigrew (1832–1908) was an Edinburgh MD (1861) who conducted anatomical, physical and physiological researches on the flight of animals. He published his results in several works, including the 1873 book *Animal locomotion, or walking, swimming and flying with a dissertation on aeronautics*. Pettigrew was interested in artificial flight and he wrote a long entry in the 1879 *Encyclopaedia Britannica* which included illustrations of early experimental 'flying machines' (Figure 2).

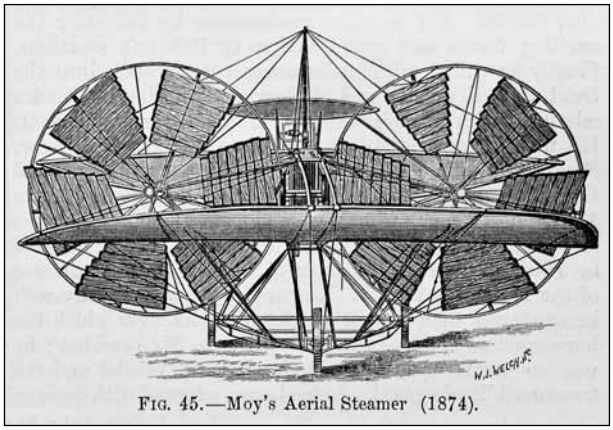
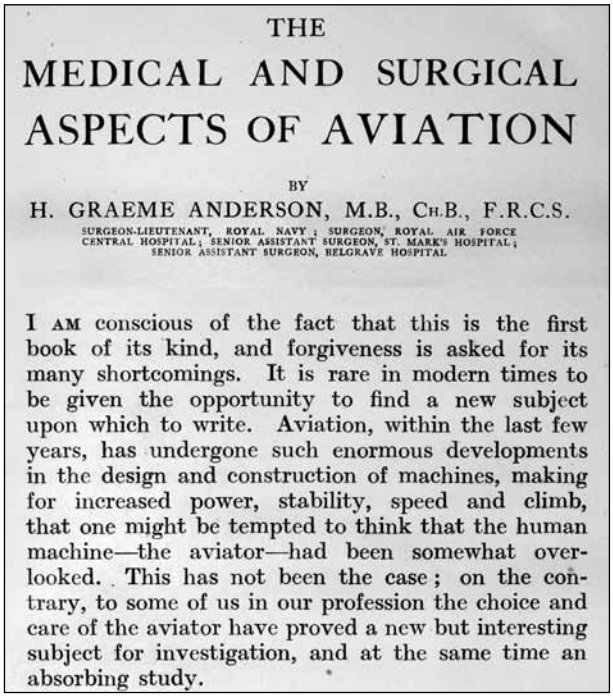


Fig. 45.—Moy's Aerial Steamer (1874).

FIGURE 2 Flight and flying machines. *The Enyclopaedia Britannica,* 9th ed. Edinburgh: Adam & Charles Black; 1879.



THE
MEDICAL AND SURGICAL
ASPECTS OF AVIATION

BY
H. GRAEME ANDERSON, M.B., Ch.B., F.R.C.S.
SURGEON-LIEUTENANT, ROYAL NAVY; SURGEON, ROYAL AIR FORCE CENTRAL HOSPITAL; SENIOR ASSISTANT SURGEON, ST. MARK'S HOSPITAL; SENIOR ASSISTANT SURGEON, BELGRAVE HOSPITAL

I am conscious of the fact that this is the first book of its kind, and forgiveness is asked for its many shortcomings. It is rare in modern times to be given the opportunity to find a new subject upon which to write. Aviation, within the last few years, has undergone such enormous developments in the design and construction of machines, making for increased power, stability, speed and climb, that one might be tempted to think that the human machine—the aviator—had been somewhat overlooked. This has not been the case; on the contrary, to some of us in our profession the choice and care of the aviator have proved a new but interesting subject for investigation, and at the same time an absorbing study.

FIGURE 3 The first paragraph of the preface to Anderson's *The Medical and Surgical Aspects of Aviation*. London: Hodder & Stoughton; 1919.

The Library has a copy of the first textbook on aviation medicine *The Medical and Surgical Aspects of Aviation* written in 1919 by H Graeme Anderson (1882–1925) (Figure 3). Anderson wrote this textbook while he was surgeon at the Royal Air Force Central Hospital. He was one of a small number of air medical officers in WWI who obtained a pilot's certificate. Anderson researched the physical fitness of airmen, the prevention and treatment of aerial accidents and the improvement of flying conditions. After the war he worked as a surgical consultant in the RAF.