

Girton College
Ceremony for the Commemoration of Benefactors
17 October 2020

A tribute to
Alfred Fernandez Yarrow (1842–1932)
Read by Dr. Shaun Fitzgerald
Fellow in Engineering

Alfred Yarrow was born in East London, in 1842 to a family of limited means. His inventiveness was quickly apparent; by the time he was 8 he had constructed a clock that kept good time as well as an automatic wool winder. At 15 he began an apprenticeship in marine engine construction.

In his spare time Alfred built small machines - including one for cutting up marmalade oranges; attended scientific lectures - some of which were delivered by Michael Faraday at the Royal Institution; and patented a raft of early inventions, including the design for a steam plough created with his friend James Hilditch - with whom he kept in touch via London's first private overhead telegraph wire strung up between their homes. He was also interested in photography, building his own camera and developing home-made plates.

Then he found his metier. In 1865, aged 23, he and another young engineer, Robert Hedley, set up a small engineering workshop at Folly Wall, on the Isle of Dogs. Like all small businesses it was a struggle to get off the ground, until Alfred – inspired by the nearby river - decided that ships, in the first instance steam launches, were the future. The first vessel was commissioned by Colonel Halpin for a loss-making £145 in 1868. It was followed by nearly 150 more steam-powered, steel-hulled launches built between 1868 and 1875, priced between £140 and £2,000. Almost all the plans were drawn up by Alfred whose genius was to design sections that could be dismantled, carried overland, and reassembled as required on the banks of the rivers where they were needed.

In 1875 the partnership was dissolved, and when the firm became Alfred's sole venture his inventive mind quickly turned to lighter, larger, faster vessels whose speed was guaranteed by the 'Yarrow boiler', which included an ingenious safety valve to protect the stokers, and which was, from the 1890s found widely on British and foreign warships, especially torpedo boats. Eventually, between 1906 and 1908, Yarrow moved his entire ship-building business, including 300 London workers to Scotstoun, west Glasgow, on the banks of the Clyde where he built 40 houses with gardens to accommodate at least some of the families.

It was not long after that, that he retired from active oversight of the company returning to the south in 1913, intending to focus on his philanthropic interests. However, when the First World war was declared, and despite being 72 years old, he immediately returned to directing the Yarrow shipyards, building 29 new destroyers to join the many Yarrow boats already in service in the British navy.

As the conflict unfolded Alfred's inventive imagination once again took flight. He developed a whale oil treatment for 'trench-foot', a veil to camouflage soldiers' faces against enemy snipers, and a new kind of sailor's life-jacket, the 'Miranda waistcoat'. The great war also brought personal tragedy when his youngest son, Eric, an officer in the Argyll and Sutherland Highlanders, died at the battle of Ypres in May 1915. Despite this loss, Alfred's wide-ranging work for the British war effort continued, and in 1916 he was invested with the title Baron Yarrow of Homestead in recognition of that. In the same year he was elected Honorary Life Member of the Institution of Mechanical Engineers, and in 1922, Fellow of the Royal Society. The Yarrow shipyards remained in operation until 1977 having built a total of 1,283 ships.

As well as being a practising, inventive Engineer, Yarrow was a scholar, educationalist, philanthropist and champion of women. According to his second wife, he favoured 'every scheme for giving women power and influence in life, and for enabling them to enter upon careers'. In particular he supported the ambition of women who wanted to go to university' – a sentiment which underlay his decision, in 1913, to donate £12,000 to Girton College.

In itself this gift would have cleared half the outstanding mortgage, but ingeniously Yarrow gave it as a time-limited matching fund which meant that by 1 January 1914 the College was in a position to pay off the entirety of its debt for the first time since its foundation. Not only that, but there was a residual positive balance which means that Alfred Yarrow was the catalyst that established Girton's permanent endowment – a fund which is absolutely critical to the operation of the College today.

The return on that endowment was used to increase staff salaries and support their pensions, fund scholarships (which operated similarly to bursaries today), create graduate studentships, and establish three new research fellowships in the College that were named after Lady Carlisle, Mr Yarrow, and the Pfeiffer family. In 1919, Alfred Yarrow made a further donation to the College of £10,000, to encourage research in mathematical, physical and natural sciences – something he thought essential to stimulate industry and employment. In recognition of this passion for science and engineering, Alfred's name lives on in College today in the shape of the eponymous Yarrow Board - the body that dispenses the various trust funds that we now hold to support early career researchers in the Sciences.

By the time Alfred Yarrow died in 1932, not long after his 90th birthday, his gifts to Girton had transformed the fortunes of the College and his fellowships had supported prominent scientists and mathematicians such as Dorothy Wrinch, Mary Cartwright and Olga Taussky, to name but a few. Next we'll hear from another early career scientist elected by the Yarrow Board about the difference this kind of support can make; he is Dr. John Wills who is the Hertha Ayrton Research Fellow in Biological Sciences.

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