

Hello Tim,

Just thought you might find these three 'stories' interesting.

The first describes some of my father's duties and work but for my brother and I, the most exciting piece of work he did was the second story. The last story is the introduction to my maternal grandfather's World War I memoirs.

This is a transcript of the Eulogy given at me father's funeral:

21 June 1919 - 21 November 1993

The eulogy was spoken by Matthew Radford who took over from my father when the latter retired. Matthew was a Lay Reader at this time living in the nearby village of Danbury.

*Edward Marshall Wells was born in 1919. His parents were strict Baptists. He was the eldest of three sons.*

*Ted graduated at University College London in 1940 and joined the Marconi Research Laboratory. As his work was in a reserved occupation, he could have avoided military service, but in 1942 he volunteered for the Royal Air Force and became a navigator in Bomber Command. In 1944 his Halifax bomber was shot down and Ted, saved by his parachute, spent the next fifteen months in Germany as a prisoner of war in the notorious Stalag Luft III PoW camp.*

*In 1945 Ted was welcomed back to Research, initially as the Commanding Officer of the Baddow RAF detachment, to resume his work.*

*During the 1950s Ted worked on a number of different projects in the Mobile Navigation Aids Section, including navigation radars for aircraft and ships. His speciality was in coherent radar, a type of radar which is particularly good at finding moving objects masked by ground, sea or rain echoes. In 1965 Ted became a Group Leader with responsibility for research into new radar systems. A new radar project for the Royal Navy began in 1966, using the techniques which Ted had pioneered. The system remains in service today, and much of the credit for its success must be due to the soundness of Ted's basic design work. In 1973 Ted became the Manager of the Radar Research Laboratory, a post which he held until illness forced his early retirement at the end of 1981. Under his leadership many new projects were started and new techniques developed which are still helping to provide work for the factory today.*

*Those of us who had the privilege of working with Ted remember him as a leader who gave his engineers the maximum freedom and encouragement to pursue their*

*ideas but ensured that the ideas were properly thought out before they received his blessing. He was always ready to advise and help, and his advice was always absolutely sound. His penetrating mind contributed to the success of many different systems, both within and beyond his own laboratory.*

*However, Ted's interests were not confined to his work. He was active in village affairs, becoming Chairman of Sandon Parish Council and also Chairman of the Sandon Village Hall Committee. Ted was also an artist. His early work included sketches of prisoner of war camp life, which may be published one day. In his later years he painted some delightful water colour landscapes before illness made painting impossible.*

*Ted leaves us his contribution to the heritage of engineering; his work has helped to make the world a safer place for people to live in and travel in and his wisdom lives on in the minds of the younger engineers he trained.*

*Ted has also left his own response to the illness which he bore so patiently, in the form of cell tissue which will contribute to research into Parkinson's Disease and which will hasten the day when it is finally overcome.*

My sister Mary added the following comments.

*At my father's funeral I talked to former colleagues, one of whom enthused about some intricate drawings my father had done in the course of his work, and marvelled at the patience and skill that had gone into the drawings. Where these drawings are now, I do not know – but at the time I reflected what a shame it was that I only found out about this work after my father's death and I could not ask him about it. In my father's final months, when his mind was failing, he asked my mother frequently if he could meet with Speake, his one-time boss at Marconi's. My mother had no idea how to contact Speake, or even if he was still alive. He was still alive – he came to the funeral!*

### **The unlikely birth of the radar speed trap**

In the mid-1950s, Christopher Cockerell left Marconi to realise a dream. He was convinced that he could develop a craft that floated on an air cushion. As we all know he succeeded and the hovercraft was born. Amongst many of the problems he had was how to measure its speed so he

approached Marconi to see if they could help. The task ended up on my father's desk in the late 1950s where he worked in the Radar Research Division in Great Baddow.

The solution was to develop an instrument that exploited the Doppler effect, this instrument could measure the speed of anything passing underneath the hovercraft, broadly speaking you could liken it to a 'radar gun' pointing downwards. Now I'm not sure how it worked, but one day my father came home with the prototype, it was a small box with a dial and needle. He set it up on the lawn of our home with the 'gun' pointing horizontally instead of downwards. My brother Peter and I spent many a happy hour running in front of it to see how fast we could run; when we tired of this we tried with a football and cricket ball to see how fast they travelled. One of us observed the dial and needle, it was graduated in mph, and the other either ran or threw something.

This new toy was then taken to Sandon Fete where the thrower of the fastest cricket ball could win a pig. I think that was the prize but on reflection it sounds a bit generous. The rest is history. Some bright person realised you could measure the speed of a passing car. I imagine the money earned from the radar trap was far more than from the hovercraft speedometer.

PS. Cockerell was knighted, my father wasn't!

***Diary of my experiences in the European War  
1914 -1918  
&  
Merchant Navy Discharge Book  
19 January 1909 – 3 June 1911  
by  
Frederick James Ainsley***

**Kirkwall, Orkneys  
Sunday Nov 4<sup>th</sup> 1917**

Transcribed by Mark Wells – one of his eight grandchildren.

Before enlisting, my maternal grandfather had been employed by Marconi as an installation (mast) engineer. Prior to this he had worked on a number of merchant steam ships as a refrigeration engineer and machine engineer (1909-1911). These ships had taken him to Australasia and South America

***November 1917  
To my wife  
Helen***



Helen Muirhead McCulloch (Bunty)  
born 13 Feb 1885 – died 8 June 1979



Frederick James Ainsley  
born 29 Oct 1886, died 23 April 1956  
Picture from WWII when he was in the  
Home Guard



The writing in the bottom right corner is  
Mary Ainsley's, FJA's oldest daughter



## Preface

July 1914 was drawing to a close, and our impending marriage nearing. We had experienced the joy of arranging our future home and everything was in readiness for August 13<sup>th</sup> 1914, our wedding day.

The holiday weekend had been spent together at Wakefield and I journeyed to town on Tuesday morning. War was well afoot, England had made certain demands from Germany, to expire by Tuesday midnight and Wednesday morning papers told us the verdict "War declared."

I felt perplexed over this feeling it was a very serious affair.

On Thursday morning I was ordered to Maidstone to represent the firm and move some machinery to Southampton. After many difficulties and continual working, the gear was dispatched at 1.58 A.M. Sunday morning. I accompanied it in the guard's van tired and dirty, having had little sleep for three days & nights. The journey was a memorable one. I managed to procure a small bottle of beer & a piece of bread and cheese from guard. I had not tasted anything since previous noon. All along the line Territorial sentries were posted all tired and hungry. Not many days or hours before they had been in civil life, and now they seemed to be playing war. Playing; but what earnest was to follow. They only stood between our regular army and the new civilian army that was to be raised.

Could they fill the gap? We know afterwards that they did. On arrival at Southampton I reported to headquarters and found I could return to London. Previously I was expecting to proceed to Egypt with the wireless installation. However it was not so and I felt relieved owing to our wedding on the following Thursday.

The first train to London went at 5.15 P.M. it was now 9.0 A.M. I decided to get a sleep somewhere being in overalls and dirty this was not easy. I managed to change my gear in the railway station after bribing the police. Found a dirty Italian barber's and had a shave, also an eating house where I was nearly ill with the surroundings. Later I managed to find a bed at an hotel & had a good sleep for a few hours. Caught the

overcrowded train and arrived in London at 9.0 P.M. and reported at Office soon afterwards.

It was not until Tuesday that I obtained permission for a day off on Thursday and I sent a wire to my beloved Bunty. How anxious she had been over the uncertainty. From now onwards I spent many months on Admiralty work in the office. Wireless stations were erected in all British possessions and the world was linked with Whitehall.

Falkland Island; Ascension, Egypt, Aden, Hong Kong, Singapore, East & West Africa, India etc. Then followed a slack period. The war cried for men & more men, it always appealed to me. Yet I felt I had my duty to my wife to consider and shortly a child also. As often as I asked myself the question should I go? I felt I could not yet, that was the answer, not yet.

Summer 1915 came and with it great longings to join up. At last I obtained permission from my dear wife. She would spare me if I thought I ought to go. So I filled in forms for a commission in REs through civil engineers. I wanted to go in for bridging & reconstruction work but they only offered me one in wireless section. This I felt beyond my sphere of work. I was a mechanical engineer. Then tried the R.N.A.S. and A.S.C. but these came to nothing, so as time passed & the Group system was coming along, I took the leap & joined the navy. Back to the old sea I had roamed before.

I was influenced in this because of the remuneration. I had persuaded my wife to release me and felt ashamed of myself for it. It was up to me to obtain the best conditions I could and keep her in my absence.

It was early in November that I first walked into Scotland Yard and was soon thrown out because I was on government work. By a strange stroke of fortune whether for better or worse I cannot say yet. I obtain permission to leave Marconi's for duration of war by a mistake, not discovered until after I had enrolled in the Navy as an engine room officer.